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Service Manual

ORDER NO.
CRT3877

HDD MULTIMEDIA AV NAVIGATION SERVER

AVIC-Z2/XU/UC

AVIC-HD3/XU/EW5

DVD is a trademark of DVD Format/Logo Licensing Corporation.

**This service manual should be used together with the following manual(s) listed below.
For the parts numbers, adjustments, etc. which are not shown in this manual,
refer to the following manual(s).**

Model No.	Order No.	Mech. Module	Remarks
AVIC-Z1/UC	CRT3618		
CX-3016	CRT3056	MS3	DVD Mech. Module:Circuit Description, Mech. Description, Disassembly
ND-BT1/E5	CRT3684		Bluetooth unit : (ND-BT1/E is sold with AVIC-HD3/XU/EW5.)

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EXPLODED VIEWS AND PARTS LIST

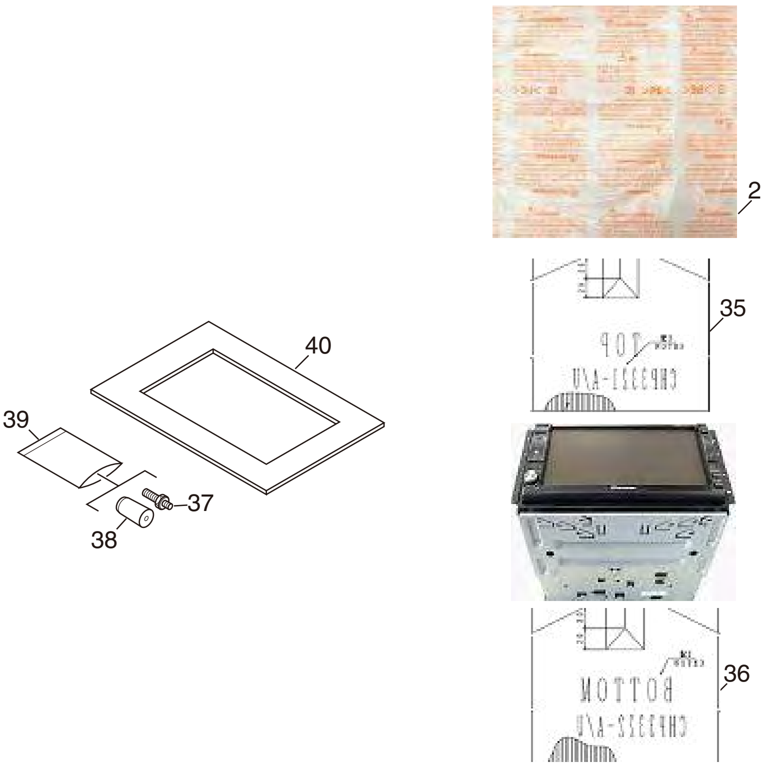
PACKING(Page 10)

PACKING SECTION PARTS LIST

*:Non spare part

Mark	No.	Description	AVIC-Z1/UC	AVIC-Z2/XU/UC
	1-1	Owner's Manual	CRB2183	CRB2295
	1-2	Owner's Manual	CRB2184	CRB2297
	1-3	Owner's Manual/POC/FRE	CRB2185	CRB2296
	1-4	Owner's Manual/POC/FRE	CRB2186	CRB2298
	1-5	Owner's Manual	CRB2258	CRB2299
	1-6	Owner's Manual/POC/FRE	CRB2259	CRB2300
	1-13	Installation Manual	CRD4100	CRD4153
*	1-14	Registration Card	CRY1245	CRY1263
*	1-25	Card	ARY1048	CRY1246(Warranty Card)
	2	Cover	CEG1177	CEG1383
	3	Carton	CHG5732	CHG6069
	4	Contain Box	CHL5732	CHL6069
	5	Protector(Upper)	CHP2227	CHP2782
	6	Protector	CHP2242	CHP3181
	7	Protector	CHP2272	CHP2783
	10	Cord Assy	CDE8083	CDP1045
	23	Sub Carton	CHA3298	CHG5691
	24	Panel	CNS8669	CNS9008
	34	Cord Assy	CDE8082	CDP1047

Mark	No.	Description	AVIC-HD1BT/EW5	AVIC-HD3/XU/EW5
	1-1	Owner’s Manual/PEE/ENG	CRB2187	CRB2301
	1-2	Owner’s Manual/PEE/ENG	CRB2188	CRB2307
	1-3	Owner’s Manual/PEE/SPE	CRB2189	CRB2302
	1-4	Owner’s Manual/PEE/SPE	CRB2190	CRB2308
	1-5	Owner’s Manual/PEE/GER	CRB2191	CRB2303
	1-6	Owner’s Manual/PEE/GER	CRB2192	CRB2309
	1-7	Owner’s Manual/PEE/FRE	CRB2193	CRB2304
	1-8	Owner’s Manual/PEE/FRE	CRB2194	CRB2310
	1-9	Owner’s Manual/PEE/ITA	CRB2195	CRB2305
	1-10	Owner’s Manual/PEE/ITA	CRB2196	CRB2311
	1-11	Owner’s Manual/PEE/DUT	CRB2197	CRB2306
	1-12	Owner’s Manual/PEE/DUT	CRB2198	CRB2312
	1-13	Installation Manual	CRD4101	CRD4154
*	1-16	Passport	CRY1013	Not used
	1-18	Owner’s Manual/PEE/ENG	CRB2260	CRB2313
	1-19	Owner’s Manual/PEE/SPE	CRB2261	CRB2314
	1-20	Owner’s Manual/PEE/GER	CRB2262	CRB2315
	1-21	Owner’s Manual/PEE/FRE	CRB2263	CRB2316
	1-22	Owner’s Manual/PEE/ITA	CRB2264	CRB2317
	1-23	Owner’s Manual/PEE/DUT	CRB2265	CRB2318
	2	Cover	CEG1074	CEG1382
	3	Carton	CHG5899	CHG6070
	4	Contain Box	CHL5899	CHL6070
	5	Protector(Upper)	CHP2227	CHP3319
	6	Protector	CHP2242	CHP3181
	7	Protector	CHP2272	CHP3320
	10	Cord Assy	CDE8083	CDP1045
	12	Cord Assy	CDE8165	CDP1046
	13	Screw Assy	CEA3797	CEA7395
	16	Screw	CMZ50P060FTC(x8)	CMZ50P060FTC(x4)
	23	Sub Carton	CHA3298	CHG5691
	24	Panel	CNS8669	CNS8665
	35	Protector	Not used	CHP3321
	36	Protector	Not used	CHP3322
	37	Screw	Not used	CBA2081
	38	Bush	Not used	CNV3930
*	39	Polyetylene Bag	Not used	E36-615
	40	Panel	Not used	CNS9007

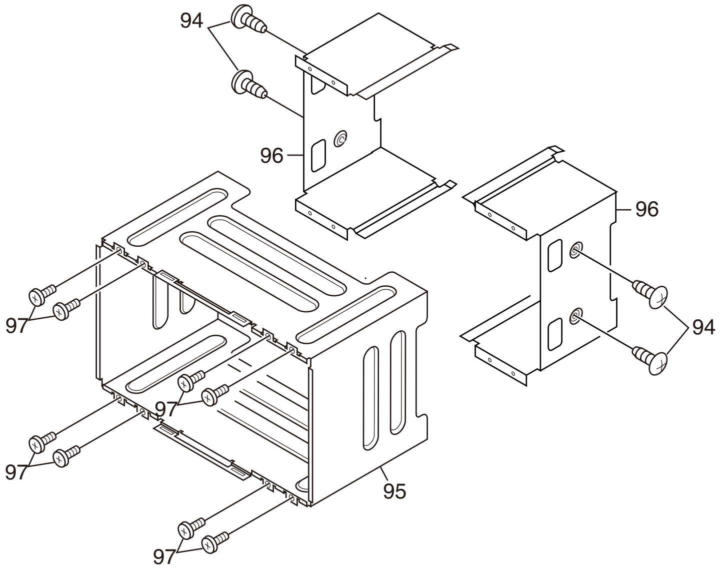


EXTERIOR(1)(Page 12)

EXTERIOR(1) SECTION PARTS LIST

Mark	No.	Description	AVIC-Z1/UC	AVIC-Z2/XU/UC
	5	Screw(M3 x 10)	CBA1637	CBA2097
	82	Panel Unit	CXC5925	CXC7880

Mark	No.	Description	AVIC-HD1BT/EW5	AVIC-HD3/XU/EW5
	5	Screw(M3 x 10)	CBA1637	CBA2097
	82	Panel Unit	CXC5984	CXC7980
	94	Screw	Not used	CMZ50P060FTC
	95	Holder	Not used	CND3430
	96	Holder	Not used	CND3431
	97	Screw	Not used	BMZ30P060FTC



EXTERIOR(2)(Page 14)

EXTERIOR(2) SECTION PARTS LIST

Mark	No.	Description	AVIC-Z1/UC	AVIC-Z2/XU/UC
	4	Screw(M2 x 3)	CBA1527	CBA2096
	61	CC Unit	CWN1582	CWN2449
	71	HDD Assy(Service)	CXX2121	CXX2207

Mark	No.	Description	AVIC-HD1BT/EW5	AVIC-HD3/XU/EW5
	4	Screw(M2 x 3)	CBA1527	CBA2096
	61	CC Unit	CWN1632	CWN2450
	69	Chassis Unit	CXC6523	CXC8128
	71	HDD Assy(Service)	CXX2122	CXX2208

EXTERIOR(3)(Page 16)

EXTERIOR(3) SECTION PARTS LIST

Mark	No.	Description	AVIC-Z1/UC	AVIC-Z2/XU/UC
	2	Cap	CNS1472	Not used
	3	Cord Assy	CDE8083	CDP1045
	22	Grille	CNS8523	CNS9018
	25	Lighting Conductor	CNV8732	CNV9510
	51	Cord Assy	CDE8082	CDP1047

Mark	No.	Description	AVIC-HD1BT/EW5	AVIC-HD3/XU/EW5
	2	Cap	CNS1472	Not used
	3	Cord Assy	CDE8083	CDP1045
	7	Cord Assy	CDE8165	CDP1046
	22	Grille	CNS8540	CNS9004
	25	Lighting Conductor	CNV8732	CNV9510

ELECTRICAL PARTS LIST(Page 121)

GPS UNIT

Circuit Symbol and No.	Part Name	AVIC-Z1/UC AVIC-HD1BT/EW5	AVIC-Z2/XU/UC AVIC-HD3/XU/EW5
L402	Inductor	CTF1486	LCYC1R2K1608
L403	Inductor	CTF1486	LCYC1R2K1608

AUDIO UNIT

Circuit Symbol and No.	Part Name	AVIC-Z1/UC	AVIC-Z2/XU/UC
Q1006	Transistor	DTC114EU	DTC114EUA
Q1201	Transistor	DTC114EU	DTC114EUA
Q1203	Transistor	DTC114EU	DTC114EUA
Q1431	Transistor	DTC114EU	DTC114EUA
Q1521	Transistor	DTC114EU	DTC114EUA
Q1852	Transistor	DTC114EU	DTC114EUA

Circuit Symbol and No.	Part Name	AVIC-HD1BT/EW5	AVIC-HD3/XU/EW5
Q1006	Transistor	DTC114EU	DTC114EUA
Q1201	Transistor	DTC114EU	DTC114EUA
Q1203	Transistor	DTC114EU	DTC114EUA
Q1431	Transistor	DTC114EU	DTC114EUA
Q1521	Transistor	DTC114EU	DTC114EUA
Q1823	Transistor	DTC114EU	DTC114EUA
Q1852	Transistor	DTC114EU	DTC114EUA
Q2501	Transistor	DTC124EU	DTC124EUA
Q2502	Transistor	DTC124EU	DTC124EUA
Q2503	Transistor	DTC124EU	DTC124EUA
Q2504	Transistor	DTC124EU	DTC124EUA

NAVI MOTHER UNIT

Circuit Symbol and No.	Part Name	AVIC-Z1/UC AVIC-HD1BT/EW5	AVIC-Z2/XU/UC AVIC-HD3/XU/EW5
Q5003	Transistor	DTC114EU	DTC114EUA
Q5004	Transistor	DTC114EU	DTC114EUA
Q5483	Transistor	DTC114EU	DTC114EUA
Q5651	Transistor	2SA1576	2SA1576A
Q5902	Transistor	DTC114EU	DTC114EUA
Q5921	Transistor	2SA1576	2SA1576A
Q6201	Transistor	DTC114EU	DTC114EUA
Q6204	Transistor	DTC114EU	DTC114EUA
Q6251	Transistor	DTC114EU	DTC114EUA
Q6301	Transistor	2SA1576	2SA1576A
Q6302	Transistor	DTC114EU	DTC114EUA
Q6311	Transistor	2SA1576	2SA1576A
Q6312	Transistor	DTC114EU	DTC114EUA
Q6351	Transistor	DTC114EU	DTC114EUA
Q6352	Transistor	DTC114EU	DTC114EUA
Q6355	Transistor	DTC114EU	DTC114EUA
Q6601	Transistor	2SA1576	2SA1576A

MONITOR UNIT

Circuit Symbol and No.	Part Name	AVIC-Z1/UC AVIC-HD1BT/EW5	AVIC-Z2/XU/UC AVIC-HD3/XU/EW5
Q352	Transistor	2SA1576	2SA1576A

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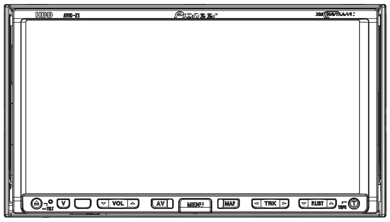
Service Manual



AVIC-Z1/UC

ORDER NO.
CRT3618

HDD MULTIMEDIA AV NAVIGATION SERVER

AVIC-Z1/UC
AVIC-HD1BT/EW5

This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech.Module	Remarks
CX-3016	CRT3056	MS3	DVD Mech. Module:Circuit Descriptions, Mech. Descriptions, Disassembly
ND-BT1/E5	CRT3684		Bluetooth unit (ND-BT1/E is sold as packed unit of AVIC-HD/BT/EW 5 in EW area.)

For details, refer to "Important Check Points for Good Servicing".

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SAFETY INFORMATION

UC

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

This product contains mercury. Disposal of this material may be regulated due to environmental considerations.
For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

EW5

1. Safety Precautions for those who Service this Unit.

- **Follow the adjustment steps in the service manual when servicing this unit. When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.**

Caution:

1. **During repair or tests, minimum distance of 13cm from the focus lens must be kept.**
2. **During repair or tests, do not view laser beam for 10 seconds or longer.**

CAUTION

This product contains a laser diode of higher class than 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product.
Refer all servicing to qualified personnel.

On the top of the player

CAUTION :	*VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.*
VORSICHT :	*SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN!*
ADVARSEL :	*SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÀLING.*
VARNING :	*SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.*
VARO! :	*AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESEN.*

VRW1860

WARNING!

The AEL (accessible emission level)of the laser power output is less than CLASS 1 but the laser component is capable of emitting radiation exceeding the limit for CLASS 1.
A specially instructed person should do servicing operation of the apparatus.

Laser diode characteristics

Wave length:
DVD:640~660nm
CD:770~810nm
DVD : 2.48mW(Emitting period :9sec.)
CD : 705μW(Emitting period : unlimited)

Additionla Laser Caution

Transistors Q1101 and Q1102 in PCB drive the laser diodes for DVD and CD respectively. When Q1101 or Q1102 is shorted between their terminals, the laser diodes for DVD or CD will radiate beam. If the top cover is removed with no disc loaded while such short-circuit is continued, the naked eyes may be exposed to the laser beam.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

● Service Precautions

- You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.
- Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.

● DVD section precaution

1. EJECT LOCK MODE for DVD mechanism.
   In order to enter "EJECT LOCK" mode, reset start while pressing "AV" and "V" keys together.
   Pressing the "AV" and "V" keys until monitor back light is turned on.
   In order to exit "EJECT LOCK" mode, follow the same steps to enter this mode.
2. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
3. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" .
4. After replacing the pickup unit, be sure to skew adjustment.
5. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.

DVD is a trademark of DVD Format/Logo Licensing Corporation.

CONTENTS

SAFETY INFORMATION 2
1. SPECIFICATIONS 7
2. EXPLODED VIEWS AND PARTS LIST 9
  2.1 PACKING 10
  2.2 EXTERIOR(1) 12
  2.3 EXTERIOR(2) 14
  2.4 EXTERIOR(3) 16
  2.5 DVD MECHANISM MODULE 18
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM 20
  3.1 BLOCK DIAGRAM 20
  3.2 OVERALL CONNECTION DIAGRAM 38
  3.3 GPS UNIT(GUIDE PAGE) 40
  3.4 AUDIO UNIT(P/S・I/F)(GUIDE PAGE) 46
  3.5 AUDIO UNIT(FM/AM・TMC TUNER) 52
  3.6 DVD CORE UNIT(MS3)(SO-DC)(GUIDE PAGE) 54
  3.7 DVD CORE UNIT(MS3)(CPU)(GUIDE PAGE) 60
  3.8 COMPOUND UNIT(A) AND COMPOUND UNIT(B) 68
  3.9 PU UNIT(REFERENCE) 69
  3.10 NAVI MOTHER PCB(SYSCOM・P/S)(GUIDE PAGE) 70
  3.11 NAVI MOTHER PCB(NAVI AV・EXTERNAL I/F)(GUIDE PAGE) 76
  3.12 HDD PELAY PCB 82
  3.13 PANEL UNIT 84
  3.14 KEYBOARD UNIT 86
  3.15 MONITOR UNIT(MONITOR)(GUIDE PAGE) 88
  3.16 MONITOR UNIT(INVERTER) 94
  3.17 MAIN PCB UNIT 96
4. PCB CONNECTION DIAGRAM 98
  4.1 AUDIO UNIT 98
  4.2 DVD CORE UNIT(MS3) 102
  4.3 COMPOUND UNIT(A) AND COMPOUND UNIT(B) 106
  4.4 GPS UNIT 107
  4.5 NAVI MOTHER PCB 108
  4.6 HDD RELAY PCB 112
  4.7 PANEL UNIT 113
  4.8 MONITOR UNIT 114
  4.9 MAIN PCB UNIT 118
  4.10 KEYBOARD UNIT 120
5. ELECTRICAL PARTS LIST 121
6. ADJUSTMENT 148
  6.1 JIG CONNECTION DIAGRAM 148
  6.2 DVD ADJUSTMENT 150
  6.3 VIDEO LEVEL ADJUSTMENT 167
  6.4 PLL ADJUSTMENT 169
  6.5 MONITOR UNIT ADJUSTMENT 171
  6.6 TEST MODE 184
  6.7 TEST DISC 207
7. GENERAL INFORMATION 224
  7.1 DIAGNOSIS 224
  7.1.1 DISASSEMBLY 224
  7.1.2 PCB LOCATIONS 232
  7.1.3 CONNECTOR FUNCTION DESCRIPTION 233
  7.2 IC 234
8. OPERATIONS 246

1. SPECIFICATIONS

General

Rated power source	14.4 V DC (10.8 V to 15.1 V allowable)
Grounding system	Negative type
Maximum current consumption	10.0 A
Dimensions (W × H × D):	
DIN	
Chassis	178 × 100 × 165 mm (7 × 3-7/8 × 6-1/2 in.)
Nose	170 × 96 × 16 mm (6-3/4 × 3-3/4 × 5/8 in.)
Weight	2.9 kg (6.4 lbs)
HDD	30 GB
Backup current	2□25 mA or less

Navigation

GPS Receiver:	
System	L1, C/Acode GPS
SPS (Standard Positioning Service)	
Reception system	8-channel multi-channel reception system
Reception frequency	1 575.42 MHz
Sensitivity	–130 dBm
Position update frequency	Approx. once per second
GPS antenna:	
Antenna	Micro strip flat antenna/ right-handed helical polarization
Antenna cable	5.0 m (16 ft. 5 in.)
Dimensions (W × H × D)	33 × 13 × 36 mm (1-1/4 × 1/2 × 1-3/8 in.)
Weight	105 g(0.23 lbs)

Display

Screen size/aspect ratio	7.0 inch wide/16:9
(effective display area: 156 × 82 mm) (6-1/8 × 3-1/4 in.)	
Pixels	336 960 (1 440 × 234)
Type	TFT active matrix, transmissive type
Color system	NTSC
Operating temperature range	+14 °F to +122 °F
Storage temperature range	–4 °F to +176 °F
Angle adjustment	0° to 21° (initial settings: 0°)

Audio

Continuous power output is 22 W per channel minimum into 4 ohms, both channels driven 50 Hz to 15 000 Hz with no more than 5% THD.

Maximum power output	50 W × 4 50 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for subwoofer)
Load impedance	4 Ω (4 Ω to 8 Ω [2 Ω for 1 ch] allowable)
Preout max output level/output impedance	2.0 V/1k Ω

Equalizer (3-Band Parametric Equalizer):	
Low	
Frequency	40/80/100/160 Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
Mid	
Frequency	200/500/1k/2k Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
High	
Frequency	3.15k/8k/10k/12.5k Hz
Q Factor	0.35/0.59/0.95/1.15 (+6 dB when boosted)
Gain	±12dB
Loudness contour:	
Low	+3.5 dB (100 Hz), +3 dB (10 kHz)
Mid	+10 dB (100 Hz), +6.5 dB (10 kHz)
High	+11 dB (100 Hz), +11 dB (10 kHz) (Volume: –30 dB)
HPF:	
Frequency	50/80/125 Hz
Slope	–12 dB/oct
Subwoofer:	
Frequency	50/80/125 Hz
Slope	–18 dB/oct
Gain	±12dB
Phase	Normal/Reverse

DVD Drive

System	DVD-Video, Compact disc audio, MP3 system
Usable discs	DVD-Video, Compact disc, MP3
Region number	1
Signal format:	
Sampling frequency	44.1/48/96 kHz
Number of quantization bits	16/20/24; linear
Frequency response	5 Hz to 44 000 Hz (with DVD, at sampling frequency 96 kHz)
Signal-to-noise ratio	97 dB (1 kHz) (IHF-A network) (CD: 96 dB (1 kHz) (IHF-A network))
Dynamic range	95 dB (1 kHz) (CD: 94 dB (1 kHz))
Distortion	0.008 % (1 kHz)
Output level:	
Video	1.0 Vp-p/75 Ω (±0.2 V)
Audio	1.0 V (1 kHz, 0 dB)
Number of channels	2 (stereo)
MP3 decoding format	MPEG-1 & 2 Audio Layer 3

FM tuner

Frequency range	87.9 MHz to 107.9 MHz
Usable sensitivity	8 dBf (0.7 μV/75 Ω, mono, S/N: 30 dB)
Signal-to-noise ratio	75 dB (IHF-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo) 0.1 % (at 65 dBf, 1 kHz, mono)
Frequency response	30 Hz to 15 000 Hz (±3 dB)
Stereo separation	45 dB (at 65 dBf, 1 kHz)
Selectivity	80 dB (±200 kHz)
Three-signal intermodulation (desired signal level)	30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range	530 kHz to 1 710 kHz (10 kHz)
Usable sensitivity	18 μV (S/N: 20 dB)
Signal-to-noise ratio	65 dB (IHF-A network)

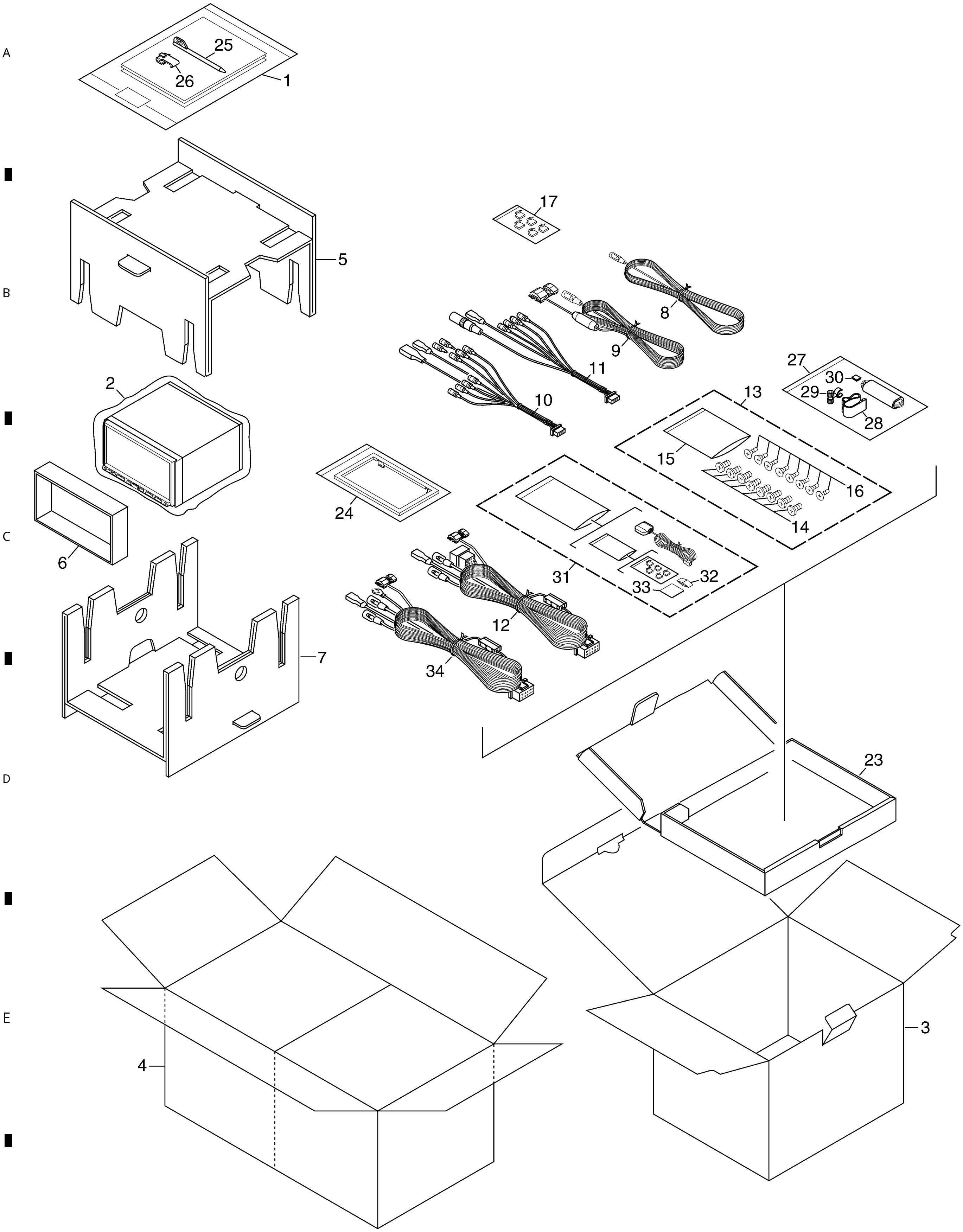
Note:

Specifications and design are subject to possible modifications without notice due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

NOTES : • *Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screw adjacent to ▽ mark on the product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)*

2.1 PACKING



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PACKING SECTION PARTS LIST

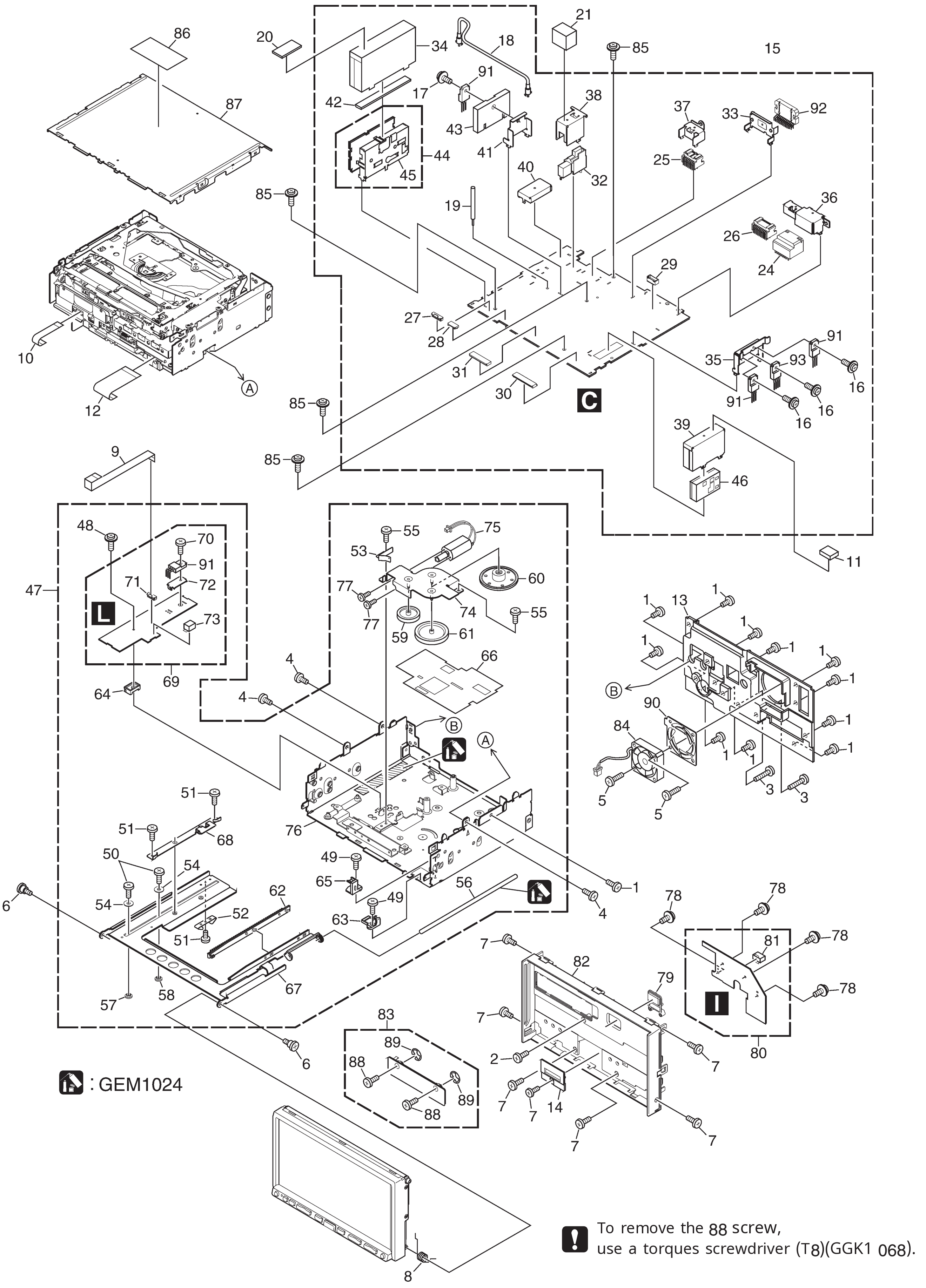
Mark	No.	Description	Part No.
	1-1	Owner's Manual(UC)	CRB 2183
		Owner's Manual/PEE/ENG(EW)	CRB 2187
	1-2	Owner's Manual(UC)	CRB 2184
		Owner's Manual/PEE/ENG(EW)	CRB 2188
	1-3	Owner's Manual/POC/FRE(UC)	CRB 2185
		Owner's Manual/PEE/SPE(EW)	CRB 2189
	1-4	Owner's Manual/POC/FRE(UC)	CRB 2186
		Owner's Manual/PEE/SPE(EW)	CRB 2190
	1-5	Owner's Manual/PEE/GER(EW)	CRB 2191
		Owner's Manual(UC)	CRB 2258
	1-6	Owner's Manual/PEE/GER(EW)	CRB 2192
		Owner's Manual/POC/FRE(UC)	CRB 2259
	1-7	Owner's Manual/PEE/FRE(EW)	CRB 2193
	1-8	Owner's Manual/PEE/FRE(EW)	CRB 2194
	1-9	Owner's Manual/PEE/ITA(EW)	CRB 2195
	1-10	Owner's Manual/PEE/ITA(EW)	CRB 2196
	1-11	Owner's Manual/PEE/DUT(EW)	CRB 2197
	1-12	Owner's Manual/PEE/DUT(EW)	CRB 2198
	1-13	Installation Manual(UC)	CRD 4100
		Installation Manual(EW)	CRD 4101
*	1-14	Registration Card(UC)	CRY1 245
	1-15	Caution Card(UC)	CRP1 310
*	1-16	Passport(EW)	CRY1 013
*	1-17	Warranty Card(EW)	CRY11 57
	1-18	Owner's Manual/PEE/ENG(EW)	CRB 2260
	1-19	Owner's Manual/PEE/SPE(EW)	CRB 2261
	1-20	Owner's Manual/PEE/GER(EW)	CRB 2262
	1-21	Owner's Manual/PEE/FRE(EW)	CRB 2263
	1-22	Owner's Manual/PEE/ITA(EW)	CRB 2264
	1-23	Owner's Manual/PEE/DUT(EW)	CRB 2265
	1-24	Polyethylene Bag	CEG111 6
	2	Cover(UC)	CEG11 77
		Cover(EW)	CEG1 074

Mark	No.	Description	Part No.
	3	Carton(UC)	CHG 5732
		Carton(EW)	CHG 5899
	4	Contain Box(UC)	CHL 5732
		Contain Box(EW)	CHL 5899
	5	Protector(Upper)	CHP 2227
	6	Protector	CHP 2242
	7	Protector	CHP 2272
	8	Cord	CDE 5044
	9	Cord	CDE 6825
	10	Cord Assy	CDE 8083
	11	Cord Assy	CDE 8084
	12	Cord Assy(EW)	CDE 8165
	13	Screw Assy	CEA 3797
	14	Screw	BMZ50P060FTC
*	15	Polyethylene Bag	CEG-1 27
	16	Screw	CMZ50P060FTC
	17	Cord Clamper Assy	CEA 4636
	18-22	•••••	
	23	Sub Carton	CHA 3298
	24	Panel	CNS 8669
	25	Pen	CNV 8969
	26	Connector	CKX1 049
	27	Microphone Assy	CPM1 064
	28	Clip Holder	CZN 5471
	29	Microphone Holder	CZN 5472
	30	Cushion	CZN 5473
	31	GPS Antenna Assy	CXC 4864
	32	Water Proof Pad	CZN 5442
	33	Sheet	CZN 7008
	34	Cord Assy(UC)	CDE 8082

Owner's Manual,Installation Manual

Part No.	Language
CRB 2183,CRB 2184,CRB 2187,CRB 2188,CRB 2258,CRB 2260	English
CRB 2185,CRB 2186,CRB 2193,CRB 2194,CRB 2259,CRB 2263	French
CRB 2189,CRB 2190,CRB 2261	Spanish
CRB 2191,CRB 2192,CRB 2262	German
CRB 2195,CRB 2196,CRB 2264	Italian
CRB 2197,CRB 2198,CRB 2265	Dutch
CRD 4100	English,French
CRD 4101	English,Spanish,German,French,Italian,Dutch

2.2 EXTERIOR(1)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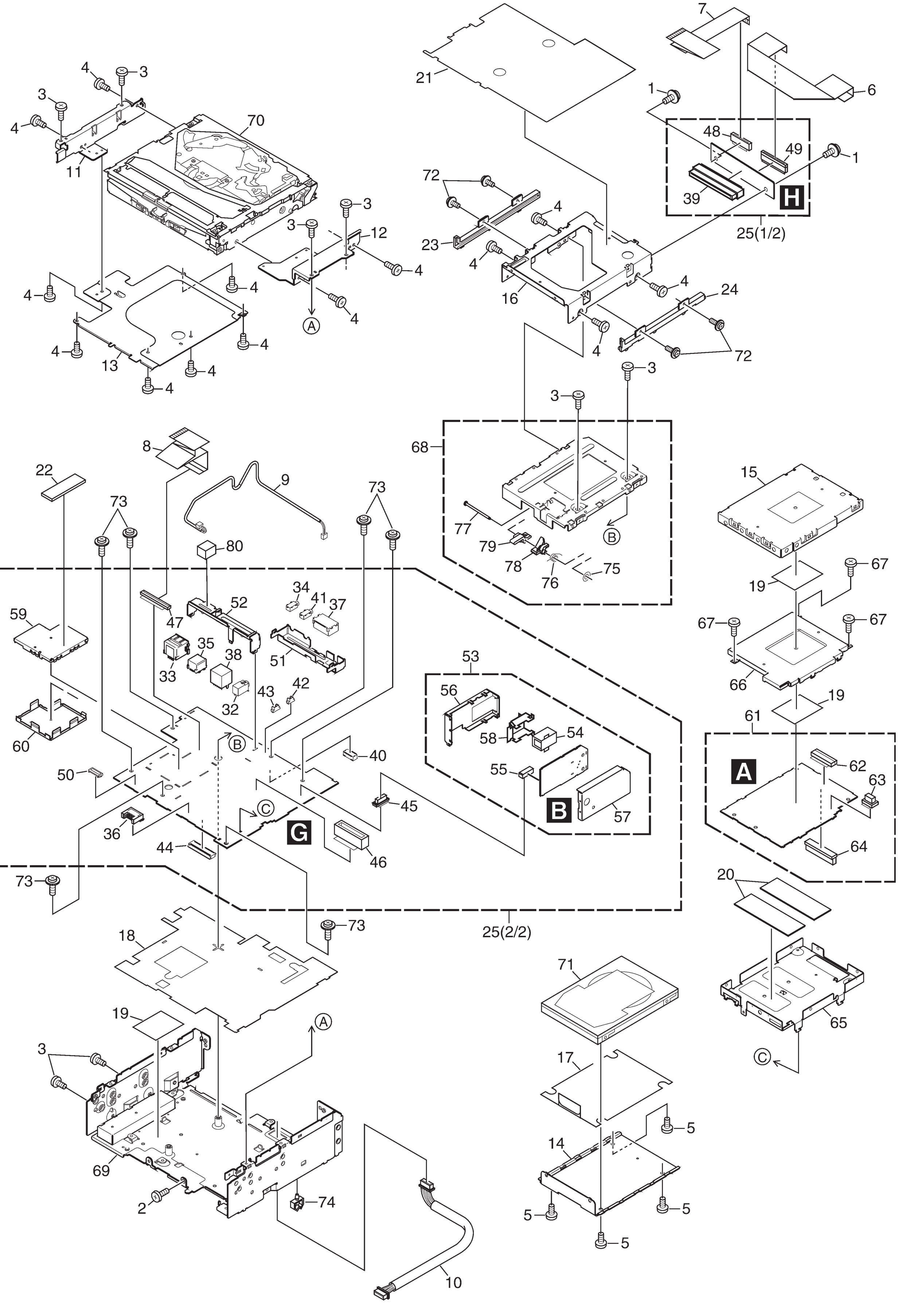
To remove the 88 screw,
use a torques screwdriver (T8)(GGK1 068).

EXTERIOR(1) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ26P060FTC
	2	Screw	BMZ26P120FTB
	3	Screw	BMZ26P160FTB
	4	Screw	BSZ26P050FTB
	5	Screw(M3 x 10)	CBA1637
	6	Screw	CBA1735
	7	Screw(M2 x 3)	CBA1877
	8	Spring	CBH2932
	9	FFC	CDE7998
	10	FFC	CDE8204
	11	Gasket(EW)	CNN1296
	12	Flexible PCB	CNP8272
	13	Heat Sink	CNR1849
	14	Cover	CNS8525
	15	Audio Unit(UC)	CWN1583
		Audio Unit(EW)	CWN1633
	16	Screw	BMZ26P050FTB
	17	Screw	BMZ26P120FTC
	18	Cord(EW)	CDH1354
	19	Clamper(EW)	CEF1048
	20	Gasket(EW)	CNN1379
	21	Gasket	CNN1375
	22	•••••	
	23	•••••	
	24	Plug(CN1001)	CKM1278
	25	Connector(CN1202)	CKM1502
	26	Connector(CN1201)	CKM1506
	27	Connector(CN1832)	CKS5572
	28	Connector(CN1003)	CKS5644
	29	Connector(CN1002)	CKS4674
	30	Connector(CN1831)	CKS5110
	31	Connector(CN1203)	CKS5486
	32	Antenna Jack(CN2501)	CKX1060
	33	Holder	CNC9921
	34	Shield	CND3004
	35	Holder	CND3023
	36	Holder	CND3142
	37	Holder	CND3180
	38	Holder	CND3181
	39	Shield(EW)	CND3188
	40	Shield(EW)	CND3189
	41	Holder	CND3411
	42	Sheet	CNM9805
	43	Heat Sink	CNR1873
	44	FM/AM Tuner Unit(UC)	CWE1952
		FM/AM Tuner Unit(EW)	CWE1951
	45	Holder	CND1054
	46	Tuner Unit(Y2600)(EW)	CWE2023
	47	Drive Mechanism Unit	CXC6806
	48	Screw(M2 x 6)	CBA1399
	49	Screw(M2 x 1.5)	CBA1615
	50	Screw(M2 x 2.5)	CBA1881
	51	Screw(M2 x 2)	CBA1771
	52	Spring	CZB3092
	53	Spring	CZB3093
	54	Washer	CZB5004
	55	Screw	CZB5005
	56	Shaft	CZL3010
	57	Roller	CZL3011
	58	Roller	CZL3012
	59	Gear	CZN7011
	60	Gear	CZN7012
	61	Gear	CZN7013
	62	Rack	CZN7014
	63	Holder	CZN7015
	64	Holder	CZN7042
	65	Holder	CZN7043
	66	Sheet	CZN7044
	67	Frame	CZN7063
	68	Plate	CZN7064
	69	Main PCB Unit	CZW5026
	70	Screw	BMZ26P050FTC
	71	Connector(CN2)	CZK3075
	72	Heat Sink	CND1228
	73	Connector(CN1)	CZK3071
	74	Bracket Unit	CZX5101
	75	Motor Unit(M1000)	CZX5102
	76	Chassis Unit	CZX5169
	77	Screw	JFZ20P020FTC
	78	Screw	BPZ20P060FTC
	79	Button(DISC)	CAC9626
	80	Panel Unit	CWN1586
	81	Connector(CN6901)	CKS4487
	82	Panel Unit(UC)	CXC5925
		Panel Unit(EW)	CXC5984
	83	Cover Unit	CXC5989
	84	Fan Motor	CXM1320
	85	Screw	ASZ26P050FTC
	86	Label(EW)	VRW1860
	87	Csse	CNB3219
	88	Screw	CBA1981
	89	Washer	YE20FTC
	90	Holder	CND3484
	91	Transistor(Q1207,1840,1850)	2SB1185
	92	IC(IC1401)	PAL007B
	93	IC(IC1403)	BA00CCOWT

2.3 EXTERIOR(2)



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EXTERIOR(2) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	AMZ26P040FTC
	2	Screw	BMZ26P060FTC
	3	Screw	BSZ26P050FTB
	4	Screw(M 2 x 3)	CBA1527
	5	Screw	CBA1805
	6	FFC	CDE 8077
	7	FFC	CDE 8280
	8	FFC	CDE 8286
	9	Cord Assy	CDE 8081
	10	Cord Assy	CDE 8156
	11	Bracket	CND1507
	12	Bracket	CND1831
	13	Shield	CND 3001
	14	Holder	CND 3002
	15	Shield	CND 3010
	16	Holder	CND 3182
	17	Insulator	CNM 8452
	18	Insulator	CNM 9815
	19	Sheet	CNM 9933
	20	Sheet	CNM 9947
	21	Insulator	CNN1376
	22	Sheet	CNN1215
	23	Rail	CNV 7149
	24	Rail	CNV 7150
	25	Navi Mother Unit(UC)	CWN1581
		Navi Mother Unit(EW)	CWN1631
	26	•••••	
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	28	•••••	
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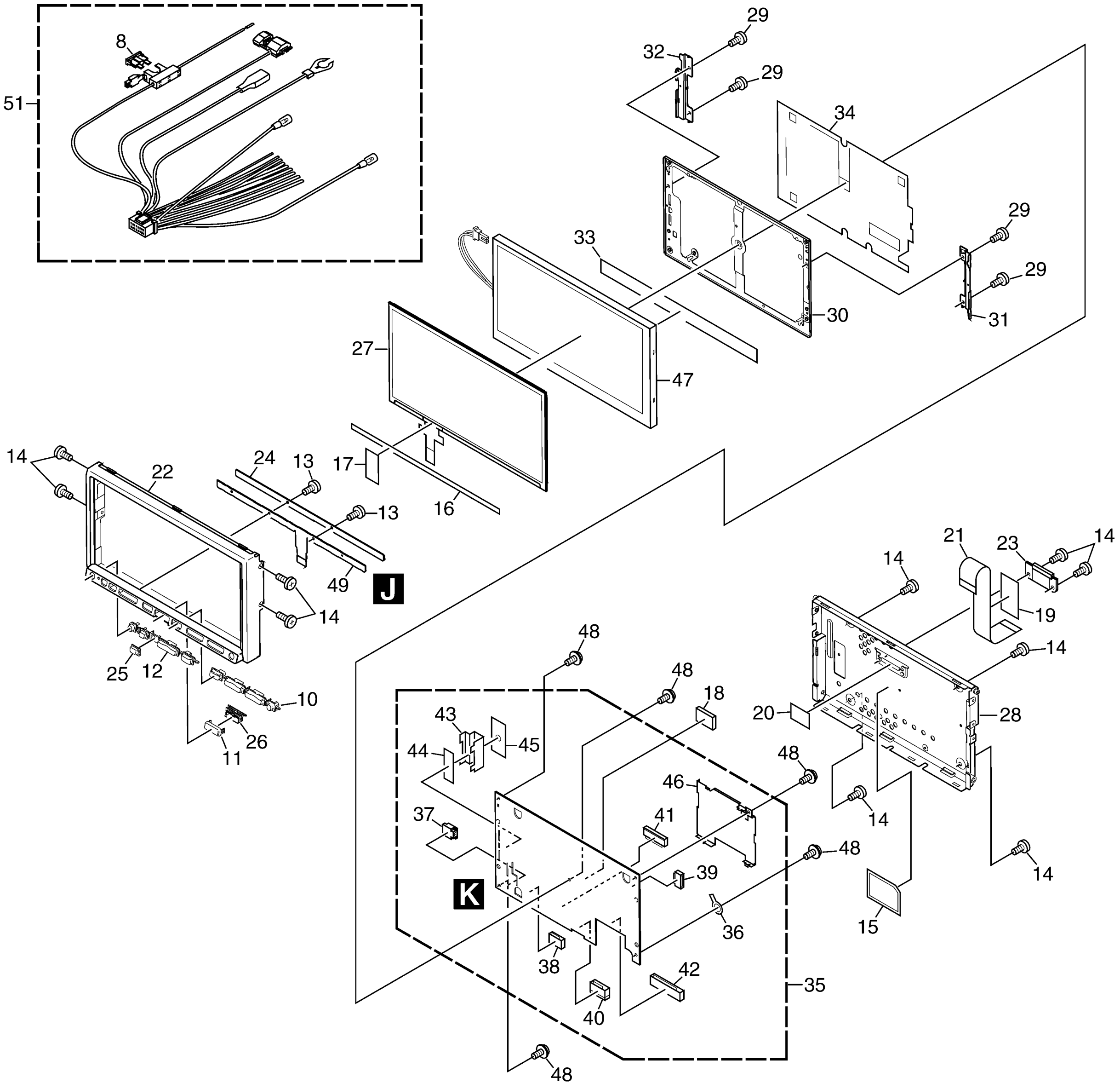
	31	•••••	
	32	Jack(CN 5602)	CKN1037
	33	Connector(CN 5571)	CKS 3408
	34	Connector(CN 5611)	CKS 3759
	35	Connector(CN 5671)	CKS 4473
	36	Connector(CN 6501)	CKS 4485
	37	Connector(CN 5531)	CKS 4499
	38	Connector(CN 5651)	CKS 4590
	39	Connector(CN 6801)	CKS 4602
	40	Connector(CN 5851)	CKS 4674
	41	Connector(CN 5621)	CKS 4752
	42	Connector(CN 6351)	CKS 4822
	43	Connector(CN 5601)	CKS 4823
	44	Connector(CN 5802)	CKS 5110
	45	Connector(CN 6401)	CKS 5205
	46	Connector(CN 5201)	CKS 5277
	47	Connector(CN 6101)	CKS 5486
	48	Connector(CN 6803)	CKS 5486
	49	Connector(CN 6802)	CKS 5522
	50	Connector(CN 5801)	CKS 5543
	51	Holder	CND 3007
	52	Holder	CND 3183
	53	GPS Unit(UC)	CWX 3304
		GPS Unit(EW)	CWX 3305
	54	Connector(CN 504)	CKS 4432
	55	Connector(CN 461)	CKS 5204
	56	Shield	CNC 9191
	57	Shield	CNC 9192
	58	Holder	CNC 9252
	59	Shield Assy	CXC 5867
	60	Shield Assy	CXC 5868
	61	CC Unit(UC)	CWN1582
		CC Unit(EW)	CWN1632
	62	Connector(CN 4151)	CKS 5645
	63	Connector(CN 4001)	CKS 5229
	64	Connector(CN 4804)	CKS 5276
	65	Shield Assy	CXC 5869
	66	Shield Assy	CXC 5870
	67	Screw	PMH26P050FTC
	68	Frame Assy	CXC 6022
	69	Chassis Unit(UC)	CXC 5401
		Chassis Unit(EW)	CXC 6523
	70	DVD Mechanism Module(MS3)	CXK 6341
	71	HDD Assy(Service)(UC)	CXX 2121
		HDD Assy(Service)(EW)	CXX 2122
	72	Screw	IMS20P030FTC
	73	Screw	ASZ26P050FTC
	74	Wire Clip(A)	VEC1355
	75	Washer	CBF1037
	76	Spring	CBH 2618
*	77	Shaft	CLA 4187
*	78	Lever	CNV 7151
*	79	Lever	CNV 7152
	80	Gasket	CNN1297

2.4 EXTERIOR(3)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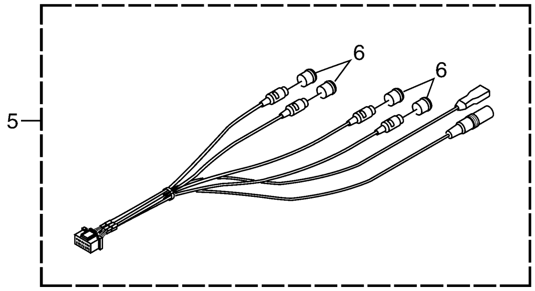
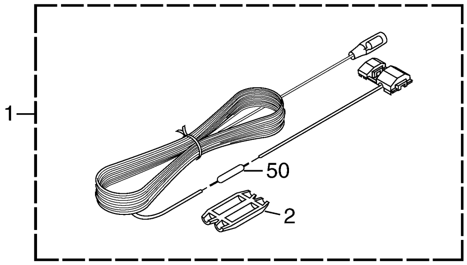
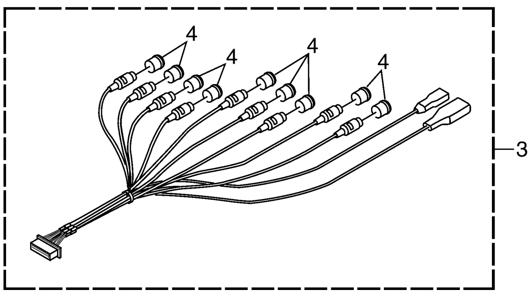
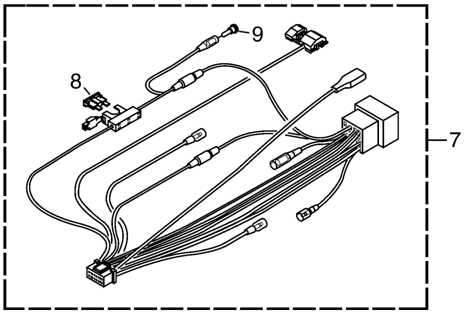




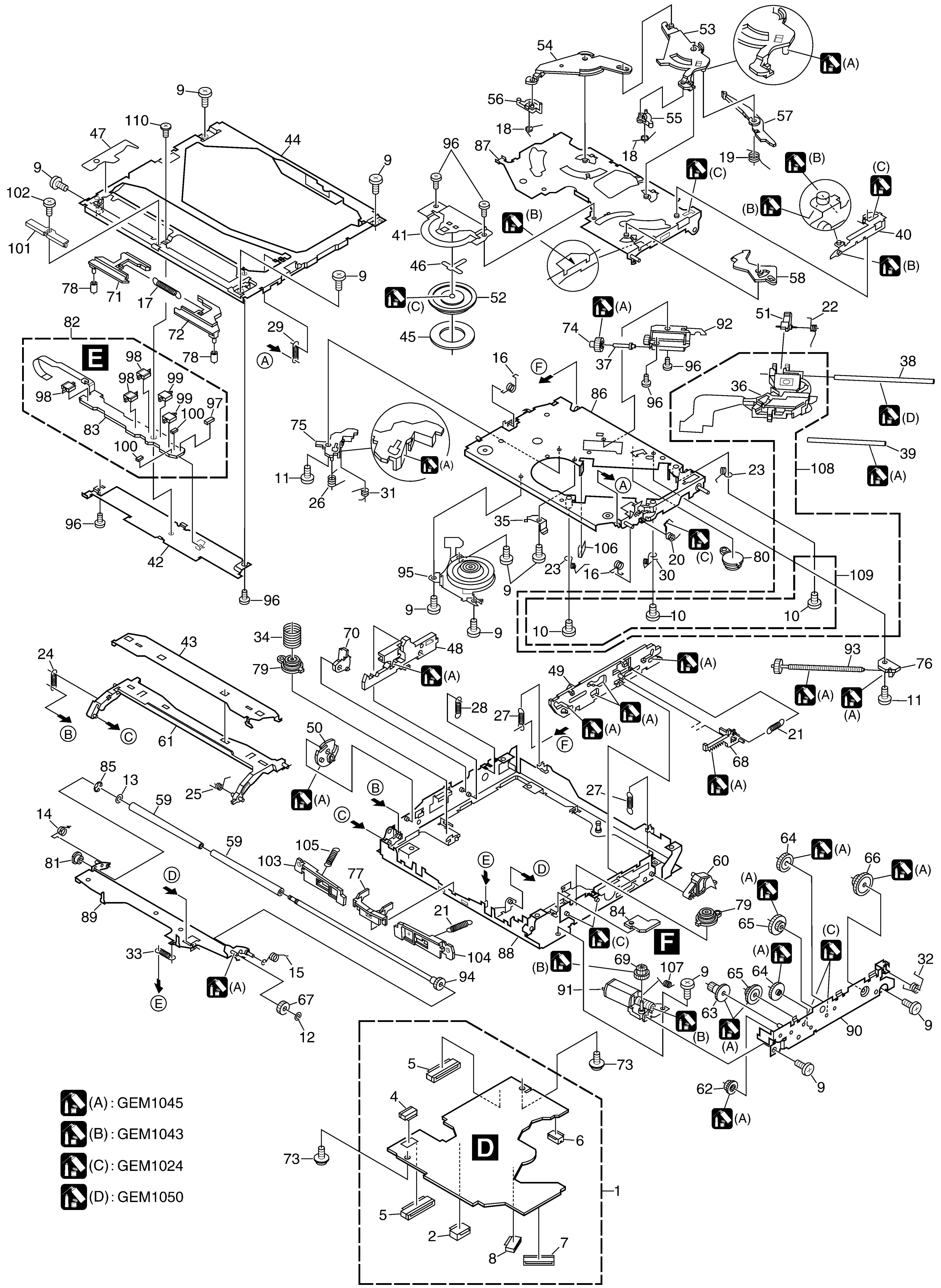




EXTERIOR(3) SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Cord	CDE6825
	2	Cap	CNS1472
	3	Cord Assy	CDE8083
	4	Cap	CNV6727
	5	Cord Assy	CDE8084
	6	Cap	CNV6727
	7	Cord Assy(EW)	CDE8165
⚠	8	Fuse(10A)	CEK1136
	9	Cap(EW)	CKX-003
	10	Button	CAC9622
	11	Button(MENU)	CAC9623
	12	Button	CAC9625
	13	Screw(M2x5)	CBA1875
	14	Screw(M2x3)	CBA1877
	15	Shield	CNM9656
	16	Sheet	CNN1102
	17	Sheet	CNN1103
	18	Spacer	CNN1220
	19	Cover	CNN1221
	20	Cover	CNN1223
	21	Flexible PCB	CNP8970
	22	Grille(UC)	CNS8523
		Grille(EW)	CNS8540
	23	Guide	CNV5169
	24	Spacer	CNV8730
	25	Lighting Conductor	CNV8732
	26	Holder	CNV8931
	27	Touch Panel	CSX1093
	28	Case Unit	CXC5408
	29	Screw(M2x2)	CBA1771
	30	Holder	CND3014
	31	Holder	CND3015
	32	Holder	CND3016
	33	Insulator	CNM9811
	34	Insulator	CNM9962
	35	Monitor Unit(UC)	CWN1584
		Monitor Unit(EW)	CWN1634
	36	Terminal(CN971)	CKF1064
	37	Connector(CN842)	CKS4428
	38	Connector(CN3)	CKS4675
	39	Connector(CN5)	CKS5037
	40	Connector(CN4)	CKS5041
	41	Connector(CN1)	CKS5095
	42	Connector(CN7)	CKS5111
	43	Shield	CND1177
	44	Insulator	CNM7876
	45	Insulator	CNM7877
	46	Shield Assy	CXC6514
	47	LCD Module	CWX3263
	48	Screw	PMB20P040FTC
	49	Keyboard Unit(UC)	CWN1585
		Keyboard Unit(EW)	CWN1635
	50	Resistor	RS1/2PMF102J
	51	Cord Assy(UC)	CDE8082

2.5 DVD MECHANISM MODULE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(B) : GEM1043

(C) : GEM1024

(D) : GEM1050

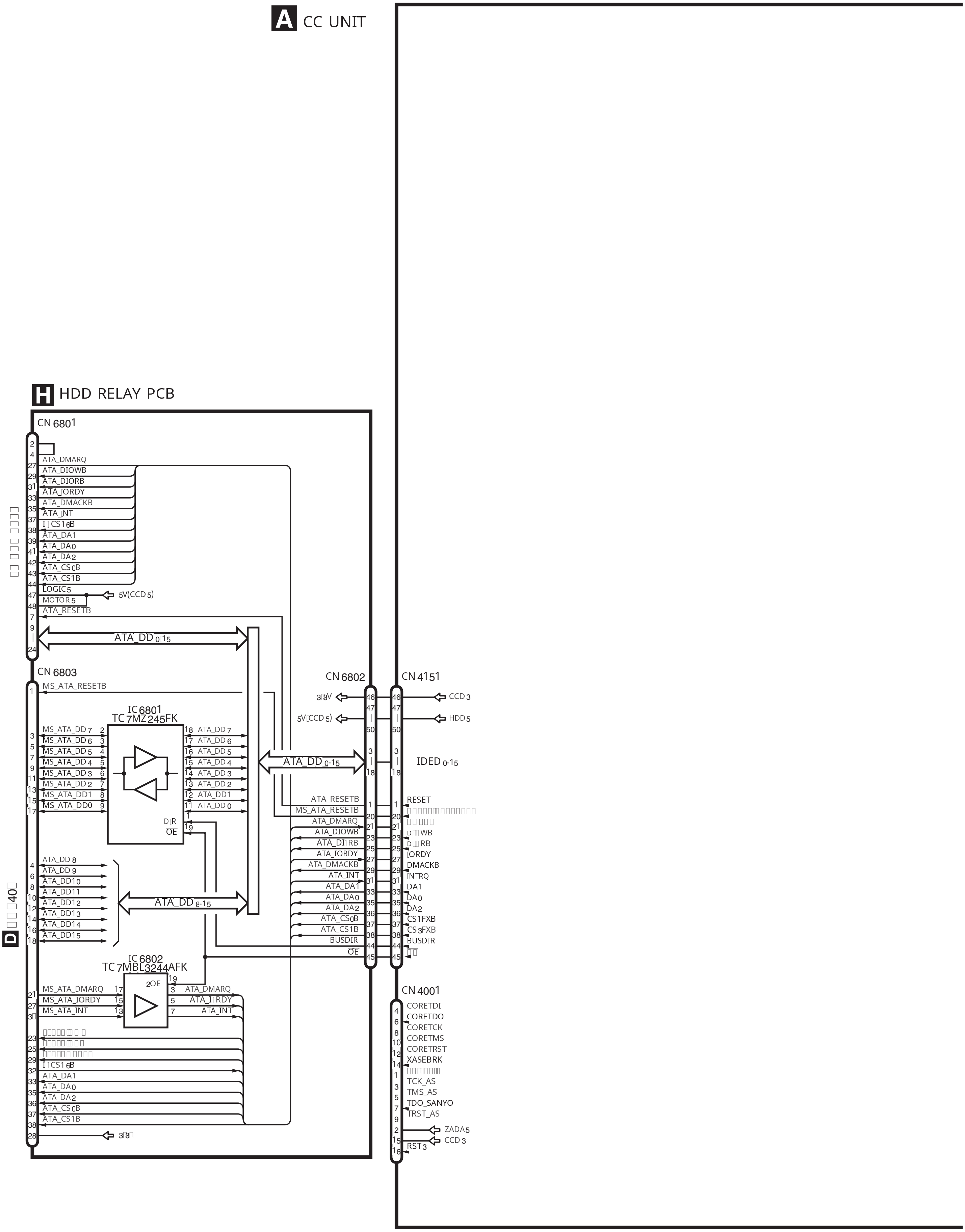
DVD MECHANISM MODULE SECTION PARTS LIST

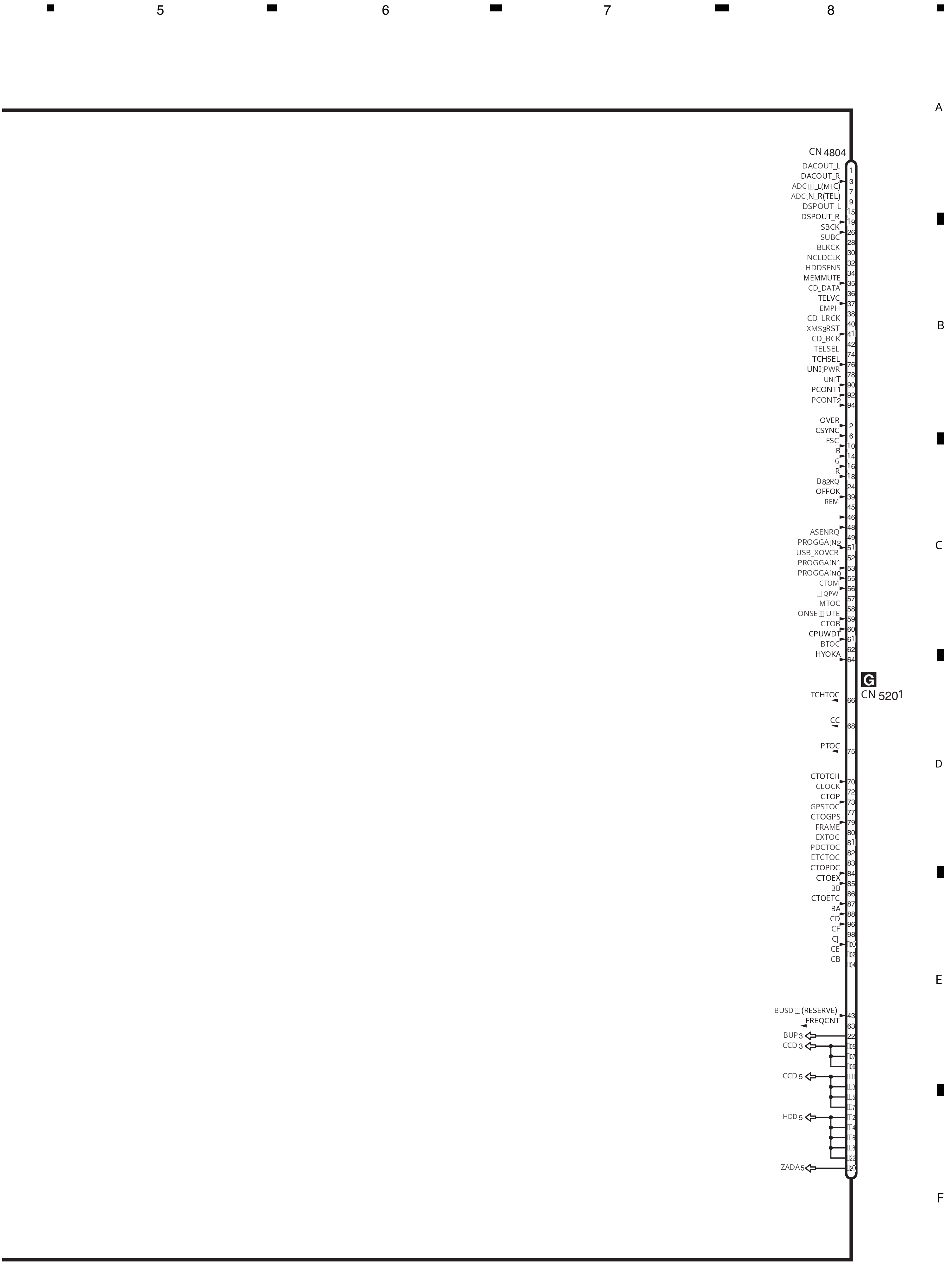
Mark	No.	Description	Part No.
	1	DVD Core Unit	CWX3301
	2	Connector(CN1501)	CKS4282
	3	Connector(CN1401)	CKS5100
	4	Connector(CN1202)	CKS5043
	5	Connector(CN1611)	CKS5100
	6	Connector(CN1603)	CKS4374
	7	Connector(CN1101)	CKS4842
	8	Connector(CN1201)	CKS5017
	9	Screw	BMZ20P020FTC
	10	Screw(M2 x 3.5)	CBA1571
	11	Screw(M2 x 2.5)	CBA1623
	12	Washer	CBF1038
	13	Washer	CBF1064
	14	Spring	CBH2586
	15	Spring	CBH2587
	16	Spring	CBH2588
	17	Spring	CBH2589
	18	Spring	CBH2590
	19	Spring	CBH2591
	20	Spring	CBH2592
	21	Spring	CBH2593
	22	Spring	CBH2594
	23	Spring	CBH2595
	24	Spring	CBH2596
	25	Spring	CBH2597
	26	Spring	CBH2598
	27	Spring	CBH2599
	28	Spring	CBH2600
	29	Spring	CBH2601
	30	Spring	CBH2602
	31	Spring	CBH2603
	32	Spring	CBH2604
	33	Spring	CBH2605
	34	Spring	CBH2711
	35	Spring	CBL1564
	36	Pickup Unit(Service)(DP5)	CXX1945
	37	Shaft	CLA3881
	38	Shaft	CLA4206
	39	Shaft	CLA4207
	40	Lever	CNC9933
	41	Holder	CNC9939
	42	Holder	CND2251
	43	Holder	CND2642
	44	Frame	CND2250
	45	Sheet	CNM6883
	46	Sheet	CNM8283
	47	Sheet	CNM8643
	48	Lever	CNV8502
	49	Lever	CNV8420
	50	Cam	CNV7156
	51	Rack	CNV7157
	52	Clamper	CNV7158
	53	Arm	CNV7159
	54	Arm	CNV7160
	55	Arm	CNV7161
	56	Arm	CNV7162

Mark	No.	Description	Part No.
*	57	Arm	CNV7163
	58	Arm	CNV7164
	59	Roller	CNV7165
	60	Arm	CNV7166
	61	Guide	CNV8093
	62	Gear	CNV7169
	63	Gear	CNV7170
	64	Gear	CNV7171
	65	Gear(Black)	CNV7172
	66	Gear	CNV7173
	67	Gear	CNV7174
	68	Rack	CNV7175
	69	Gear	CNV7176
	70	Arm	CNV8077
	71	Lever	CNV7178
	72	Lever	CNV7179
	73	Screw	IMS20P030FTC
	74	Gear	CNV7181
	75	Holder	CNV7183
	76	Holder	CNV7184
	77	Guide	CNV7745
	78	Roller	CNV7344
	79	Damper	CNV7470
	80	Damper	CNV7471
	81	Collar	CNV8845
	82	Compound Unit(A)	CWX3154
	83	•••••	
	84	Compound Unit(B)	CWX3394
	85	Washer	YE20FTC
	86	Chassis Unit	CXC3629
	87	Arm Unit	CXB8681
	88	Frame Unit	CXB8683
	89	Arm Unit	CXC4701
	90	Bracket Unit	CXB8685
	91	Motor Unit(LOADING)(M1)	CXC4315
	92	Motor Unit(CARRIAGE)(M2)	CXC4314
	93	Screw Unit	CXB8689
	94	Roller Unit	CXC5676
	95	Motor(SPINDLE)(M3)	CXM1308
	96	Screw	JFZ20P018FTC
	97	Photo-transistor(Q1299)	CPT231SCTD
	98	Switch(S1201)	CSN1069
	99	Spring Switch(S1204)	CSN1070
	100	Resistor(R1298)	RS1/16S0R0J
	101	Guide	CNV7615
	102	Screw(M1.7 x 1.2)	CBA1572
	103	Arm	CNV7742
	104	Arm	CNV7743
	105	Spring	CBH2710
	106	Spring	CBL1643
	107	Spring	CBH2712
	108	Pickup Unit(Service)(Screw)	GXX1259
	109	Screw Assy	CXX1750
	110	Screw(M1.4 x 1.4)	CBA1787

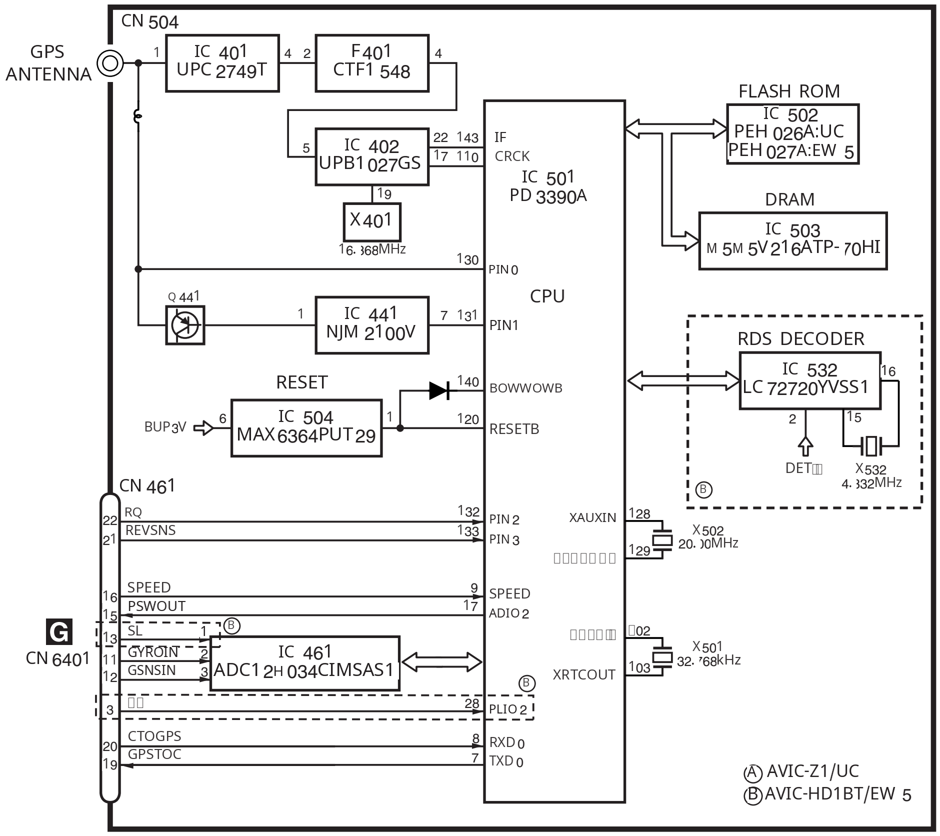
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

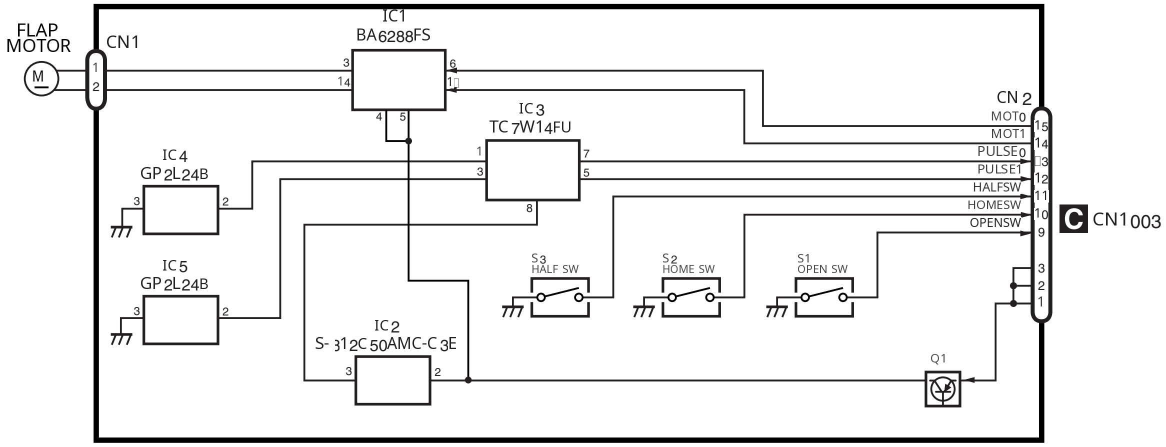

A CC UNIT
H HDD RELAY PCB
CN6801
ATA_DMARQ
ATA_DIOWB
ATA_DIORB
ATA_IORDY
ATA_DMACKB
ATA_INT
I CS16B
ATA_DA1
ATA_DA0
ATA_DA2
ATA_CS0B
ATA_CS1B
LOGIC5
MOTOR5
5V(CCD5)
ATA_RESETB
ATA_DD0-15
CN6803
MS_ATA_RESETB
IC6801
TC7MZ245FK
MS_ATA_DD7
MS_ATA_DD6
MS_ATA_DD5
MS_ATA_DD4
MS_ATA_DD3
MS_ATA_DD2
MS_ATA_DD1
MS_ATA_DD0
ATA_DD7
ATA_DD6
ATA_DD5
ATA_DD4
ATA_DD3
ATA_DD2
ATA_DD1
ATA_DD0
DIR
OE
ATA_DD8
ATA_DD9
ATA_DD10
ATA_DD11
ATA_DD12
ATA_DD13
ATA_DD14
ATA_DD15
ATA_DD8-15
D 40
IC6802
TC7MBL3244AFK
2OE
MS_ATA_DMARQ
MS_ATA_IORDY
MS_ATA_INT
ATA_DMARQ
ATA_IORDY
ATA_INT
3.3V
CN6802
3.3V
5V(CCD5)
ATA_DD0-15
ATA_RESETB
MS_ATA_RESETB
ATA_DMARQ
ATA_DIOWB
ATA_DIORB
ATA_IORDY
ATA_DMACKB
ATA_INT
ATA_DA1
ATA_DA0
ATA_DA2
ATA_CS0B
ATA_CS1B
BUSDIR
OE
CN4151
CCD3
HDD5
IDED0-15
RESET
DIOWB
DIORB
IORDY
DMACKB
INTRQ
DA1
DA0
DA2
CS1FXB
CS3FXB
BUSDIR
CN4001
CORETDI
CORETDO
CORETCK
CORETMS
CORETRST
XASEBRK
TCK_AS
TMS_AS
TDO_SANYO
TRST_AS
ZADA5
CCD3
RST3
A
B
C
D
E
F


5
6
7
8
A
B
C
D
E
F
CN 4804
DACOUT_L 1
DACOUT_R 3
ADC_L(MC) 7
ADCN_R(TEL) 9
DSPOUT_L 15
DSPOUT_R 19
SBCK 26
SUBC 28
BLKCK 30
NCLDCLK 32
HDDSENS 34
MEMMUTE 35
CD_DATA 36
TELVC 37
EMPH 38
CD_LRCK 40
XMS3RST 41
CD_BCK 42
TELSEL 74
TCHSEL 76
UNIPWR 78
UNT 90
PCONT1 92
PCONT2 94
OVER 2
CSYNC 6
FSC 10
B 14
G 16
R 18
B82RQ 24
OFFOK 39
REM 45
46
48
ASENRQ 49
PROGGAN2 51
USB_XOVCR 52
PROGGAN1 53
PROGGAN0 55
CTOM 56
QPW 57
MTOC 58
ONSEUTE 59
CTOB 60
CPUWDT 61
BTOC 62
HYOKA 64
G
CN 5201
TCHTOC 66
CC 68
PTOC 75
CTOTCH 70
CLOCK 72
CTOP 73
GPSTOC 77
CTOGPS 79
FRAME 80
EXTOC 81
PDCTOC 82
ETCTOC 83
CTOPDC 84
CTOEX 85
BB 86
CTOETC 87
BA 88
CD 96
CF 98
CJ 0
CE 02
CB 04
BUSD(RESERVE) 43
FREQCNT 63
BUP 3 22
CCD 3 05
07
09
CCD 5
3
5
7
HDD 5 2
4
6
8
22
ZADA5 20

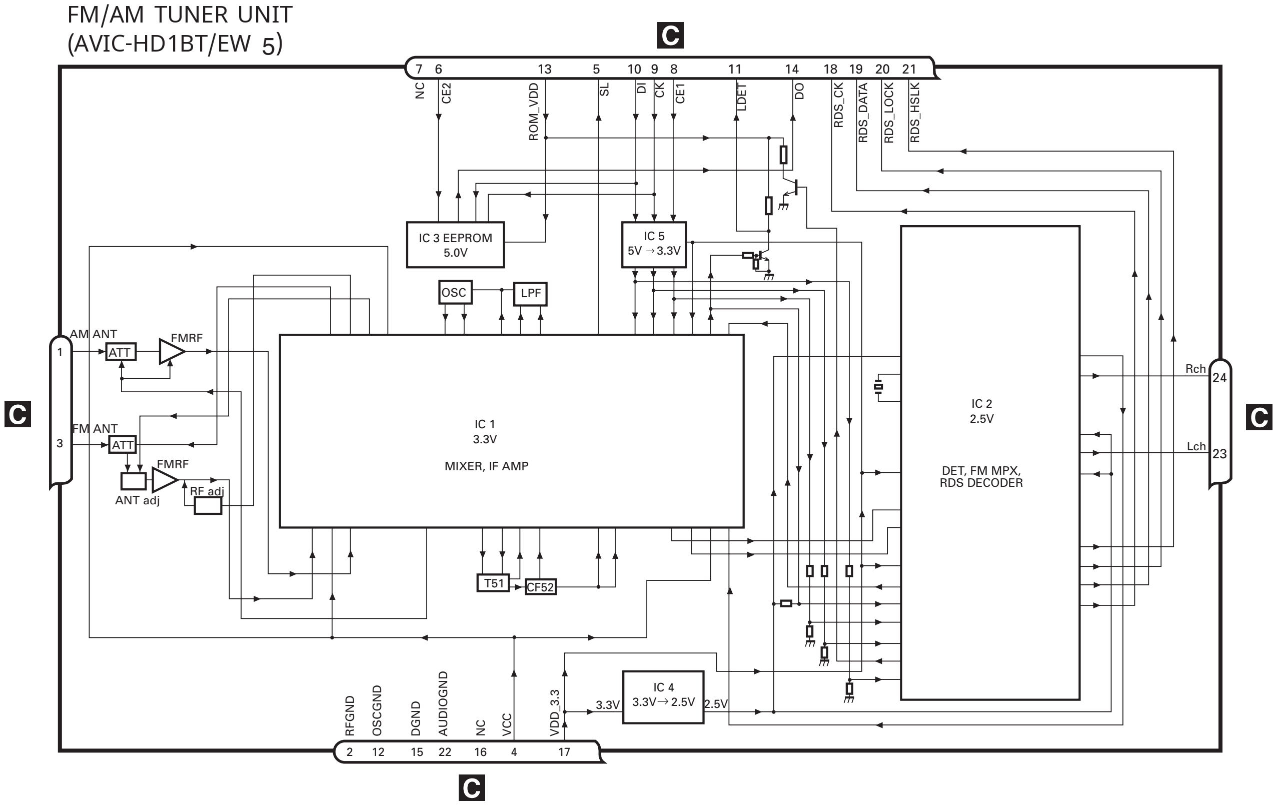
B GPS UNIT


GPS ANTENNA
CN 504
IC 401
UPC 2749T
F401
CTF1 548
IC 402
UPB1 027GS
X401
16.368MHz
FLASH ROM
IC 502
PEH 026A:UC
PEH 027A:EW 5
DRAM
IC 503
M 5M 5V216ATP-70HI
IC 501
PD 3390A
CPU
IF
CRCK
PIN0
PIN1
BOWWOWB
RESETB
PIN2
PIN3
SPEED
ADIO2
PLIO2
RXD0
TXD0
XAUXIN
XRTCOUT
Q441
IC 441
NJM 2100V
RESET
IC 504
MAX6364PUT29
BUP3V
RDS DECODER
IC 532
LC 72720YVSS1
DET
X532
4.332MHz
X502
20.00MHz
X501
32.768kHz
CN 461
RQ
REVSNS
SPEED
PSWOUT
SL
GYROIN
GSNSIN
CTOGPS
GPSTOC
IC 461
ADC12H034CIMSAS1
G
CN 6401
Ⓐ AVIC-Z1/UC
Ⓑ AVIC-HD1BT/EW 5

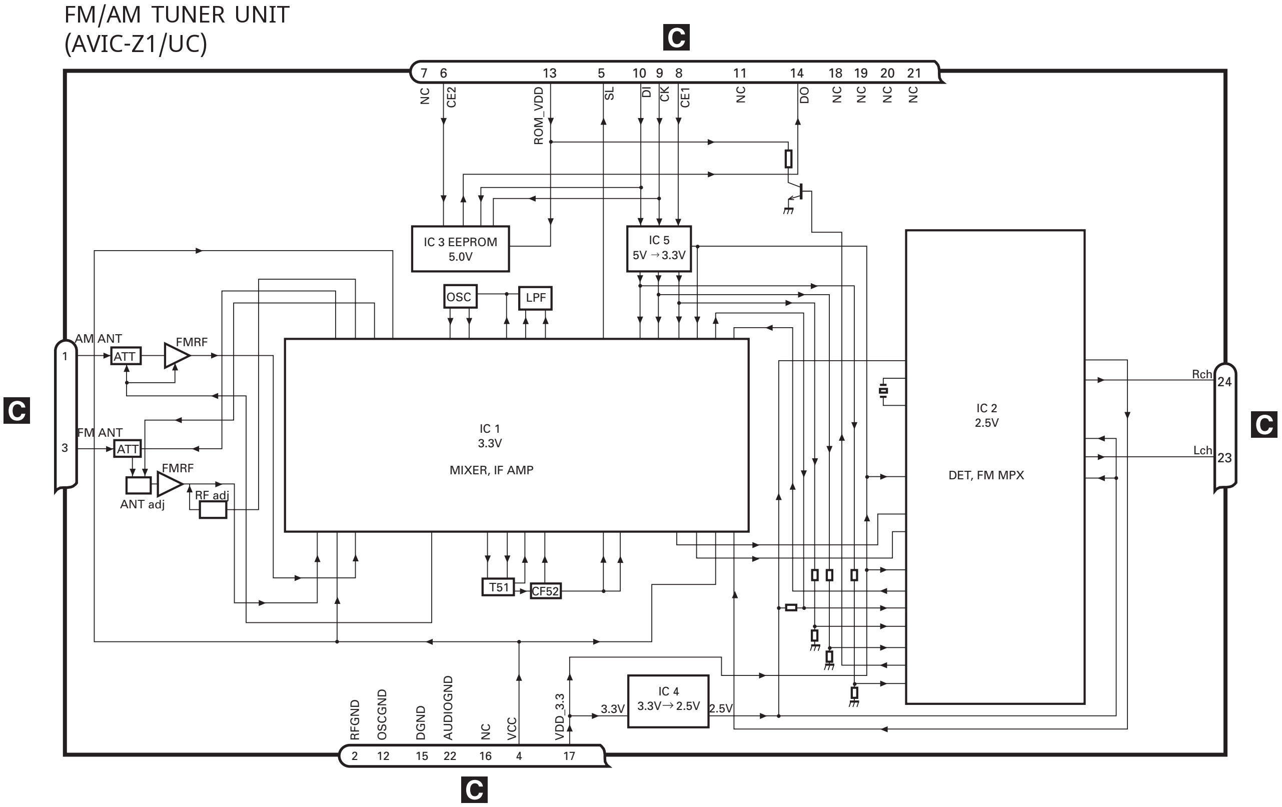
L MAIN PCB UNIT

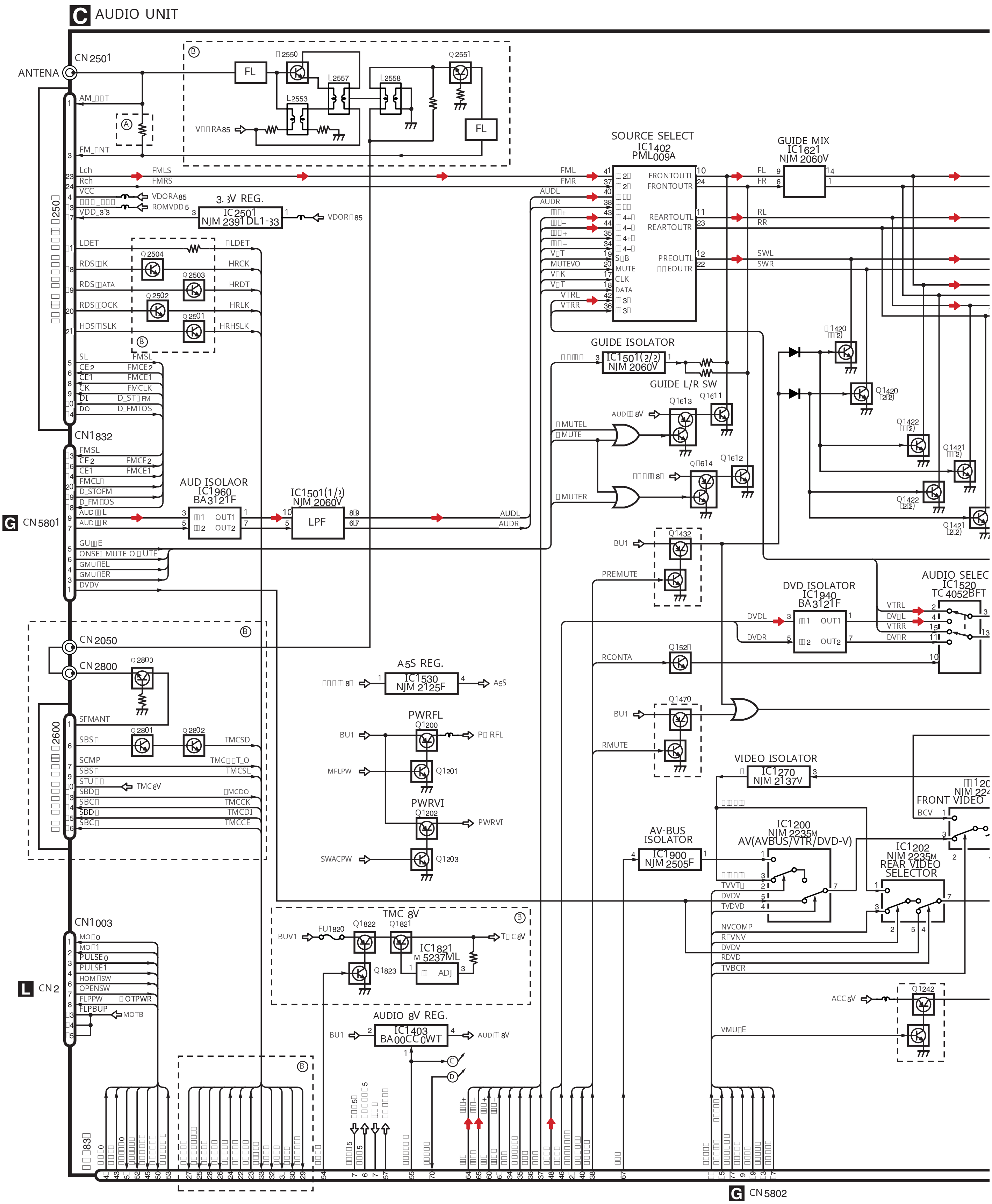

FLAP MOTOR
M
CN1
IC1
BA6288FS
IC3
TC7W14FU
IC4
GP2L24B
IC5
GP2L24B
IC2
S-312C50AMC-C3E
S3 HALF SW
S2 HOME SW
S1 OPEN SW
Q1
CN 2
MOT0
MOT1
PULSE0
PULSE1
HALFSW
HOMESW
OPENSW
C
CN1003

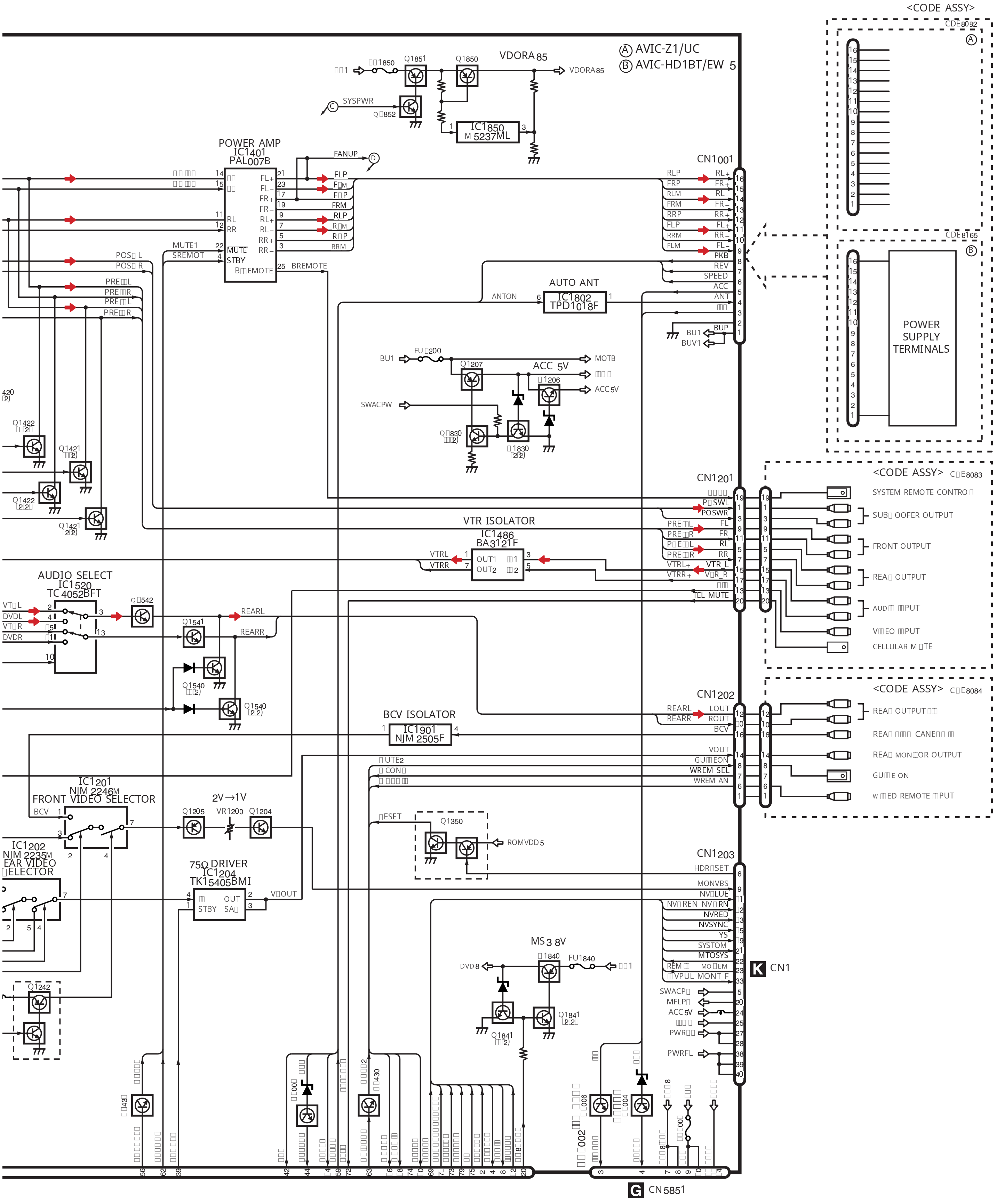
FM/AM TUNER UNIT
(AVIC-HD1BT/EW 5)


C
7 6 13 5 10 9 8 11 14 18 19 20 21
NC
CE2
ROM_VDD
SL
DI
CK
CE1
LDET
DO
RDS_CK
RDS_DATA
RDS_LOCK
RDS_HSLK
IC 3 EEPROM
5.0V
IC 5
5V → 3.3V
OSC
LPF
AM ANT
1
ATT
FMRF
FM ANT
3
ATT
FMRF
ANT adj
RF adj
IC 1
3.3V
MIXER, IF AMP
T51
CF52
IC 2
2.5V
DET, FM MPX,
RDS DECODER
Rch
24
Lch
23
IC 4
3.3V→2.5V
3.3V
2.5V
RFGND
OSCGND
DGND
AUDIOGND
NC
VCC
VDD_3.3
2 12 15 22 16 4 17
C
C
C

FM/AM TUNER UNIT
(AVIC-Z1/UC)

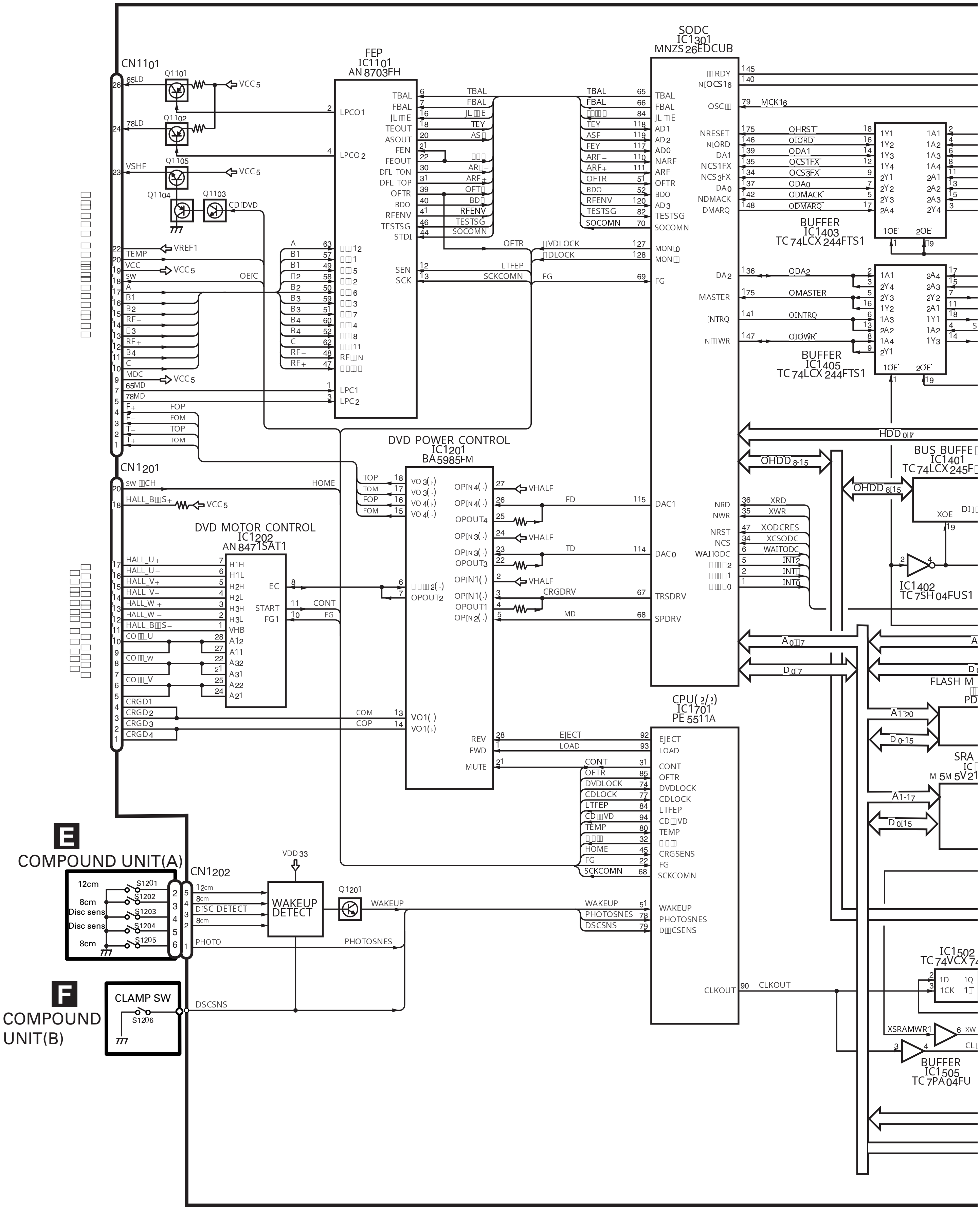

C
7 6 13 5 10 9 8 11 14 18 19 20 21
NC
CE2
ROM_VDD
SL
DI
CK
CE1
NC
DO
NC
NC
NC
NC
IC 3 EEPROM
5.0V
IC 5
5V → 3.3V
OSC
LPF
AM ANT
1
ATT
FMRF
FM ANT
3
ATT
FMRF
ANT adj
RF adj
IC 1
3.3V
MIXER, IF AMP
T51
CF52
IC 2
2.5V
DET, FM MPX
Rch
24
Lch
23
IC 4
3.3V→2.5V
3.3V
2.5V
RFGND
OSCGND
DGND
AUDIOGND
NC
VCC
VDD_3.3
2 12 15 22 16 4 17
C
C
C


C AUDIO UNIT
CN2501
ANTENNA
AM_ANT
FM_ANT
A
B
FL
Q2550
Q2551
L2557
L2558
L2553
VDORA85
Lch
Rch
VCC
VDD_33
FMLS
FMRS
VDORA85
ROMVDD5
3.3V REG.
IC2501
NJM 2391DL1-33
VDOR85
LDET
RDSCK
RDSDATA
RDSLOCK
HDSSLK
Q2504
Q2503
Q2502
Q2501
HRCK
HRDT
HRLK
HRHSLK
SL
CE2
CE1
CK
DI
DO
FMSL
FMCE2
FMCE1
FMCLK
D_STFM
D_FMTOS
CN1832
FMSL
CE2
CE1
FMCL
D_STOFM
D_FMTOS
AUDL
AUDR
G CN5801
AUD ISOLAOR
IC1960
BA3121F
OUT1
OUT2
IC1501(1/2)
NJM 2060V
LPF
AUDL
AUDR
GUIDE
ONSEI MUTE OUTE
GMUTEL
GMUTER
DVDV
SOURCE SELECT
IC1402
PML009A
FML
FMR
AUDL
AUDR
VTRL
VTRR
MUTEVO
FRONTOUTL
FRONTOUTR
REAROUTL
REAROUTR
PREOUTL
PREOUTR
MUTE
CLK
DATA
GUIDE MIX
IC1621
NJM 2060V
FL
FR
RL
RR
SWL
SWR
GUIDE ISOLATOR
IC1501(2/2)
NJM 2060V
GUIDE L/R SW
Q1613
Q1611
AUD 8V
MUTEL
MUTE
MUTER
Q1614
Q1612
Q1420
Q1422
Q1421
BU1
Q1432
PREMUTE
DVD ISOLATOR
IC1940
BA3121F
DVDL
DVDR
OUT1
OUT2
AUDIO SELEC
IC1520
TC4052BFT
VTRL
DVDL
VTRR
DVDR
RCONTA
Q1520
Q1470
RMUTE
VIDEO ISOLATOR
IC1270
NJM 2137V
FRONT VIDEO
NJM 224
BCV
AV-BUS ISOLATOR
IC1900
NJM 2505F
IC1200
NJM 2235M
AV(AVBUS/VTR/DVD-V)
IC1202
NJM 2235M
REAR VIDEO SELECTOR
TVVT
DVDV
TVDVD
NVCOMP
RVNV
DVDV
RDVD
TVBCR
ACC5V
Q1242
VMUTE
CN2050
CN2800
Q2800
SFMANT
SBS
SCMP
STU
SBD
SBC
Q2801
Q2802
TMCSD
TMCSL
TMC8V
TMCDO
TMCCK
TMCDI
TMCCE
A5S REG.
IC1530
NJM 2125F
A5S
PWRFL
Q1200
PRFL
MFLPW
Q1201
PWRVI
Q1202
SWACPW
Q1203
TMC 8V
BUV1
FU1820
Q1822
Q1821
IC1821
M 5237ML
ADJ
TC8V
Q1823
AUDIO 8V REG.
IC1403
BA00CC0WT
AUD 8V
C
D
CN1003
MO0
MO1
PULSE0
PULSE1
HOMSW
OPENSW
FLPPW
OTPWR
FLPBUP
MOTB
L CN2
G CN5802

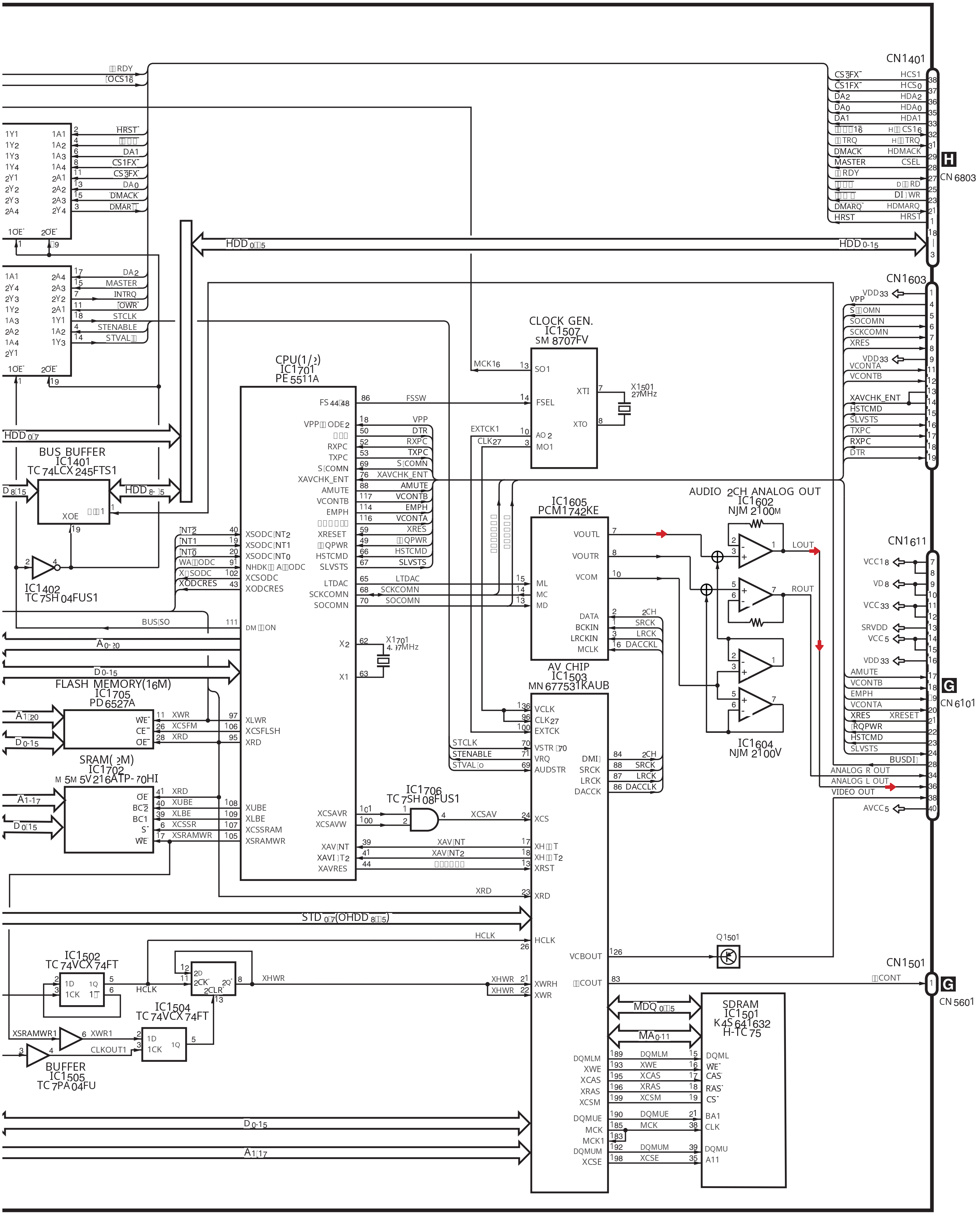


<CODE ASSY>
CDE8082
Ⓐ AVIC-Z1/UC
Ⓑ AVIC-HD1BT/EW 5
CDE8165
POWER SUPPLY TERMINALS
Q1851
Q1850
VDORA85
SYSPWR
IC1850
M 5237ML
POWER AMP
IC1401
PAL007B
FANUP
FLP
FRM
RLP
RRM
MUTE1
SREMOT
MUTE
STBY
BREMOTE
CN1001
RLP
FRP
RLM
FRM
RRP
FLP
RRM
FLM
RL+
FR+
RL−
FR−
RR+
FL+
RR−
FL−
PKB
REV
SPEED
ACC
ANT
BUP
BU1
BUV1
AUTO ANT
ANTON
IC1802
TPD1018F
BU1
Q1207
ACC 5V
MOTB
ACC5V
SWACPW
Q1422
Q1421
CN1201
POSWR
PRE L
PRE R
VTR ISOLATOR
IC1486
BA3121F
VTRL
VTRR
OUT1
OUT2
VTRL+
VTRR+
VTR_L
TEL MUTE
<CODE ASSY> CDE8083
SYSTEM REMOTE CONTRO
SUB OOFER OUTPUT
FRONT OUTPUT
REA OUTPUT
AUD PUT
V EO PUT
CELLULAR M TE
AUDIO SELECT
IC1520
TC4052BFT
DVDL
DVDR
REARL
REARR
Q1541
Q1540
CN1202
LOUT
ROUT
BCV
VOUT
WREM SEL
WREM AN
BCV ISOLATOR
IC1901
NJM 2505F
<CODE ASSY> CDE8084
REA OUTPUT
REA MON OR OUTPUT
GU E ON
ED REMOTE PUT
IC1201
NJM 2246M
FRONT VIDEO SELECTOR
BCV
2V→1V
Q1205
VR1200
Q1204
Q1350
ROMVDD5
IC1202
NJM 2235M
EAR VIDEO ELECTOR
75Ω DRIVER
IC1204
TK15405BMI
OUT
STBY
V OUT
CN1203
HDR SET
MONVBS
NVRED
NVSYNC
YS
SYSTOM
MTOSYS
K CN1
MS3 8V
FU1840
DVD8
Q1841
SWACP
MFLP
ACC5V
PWRFL
Q1242
G CN5851

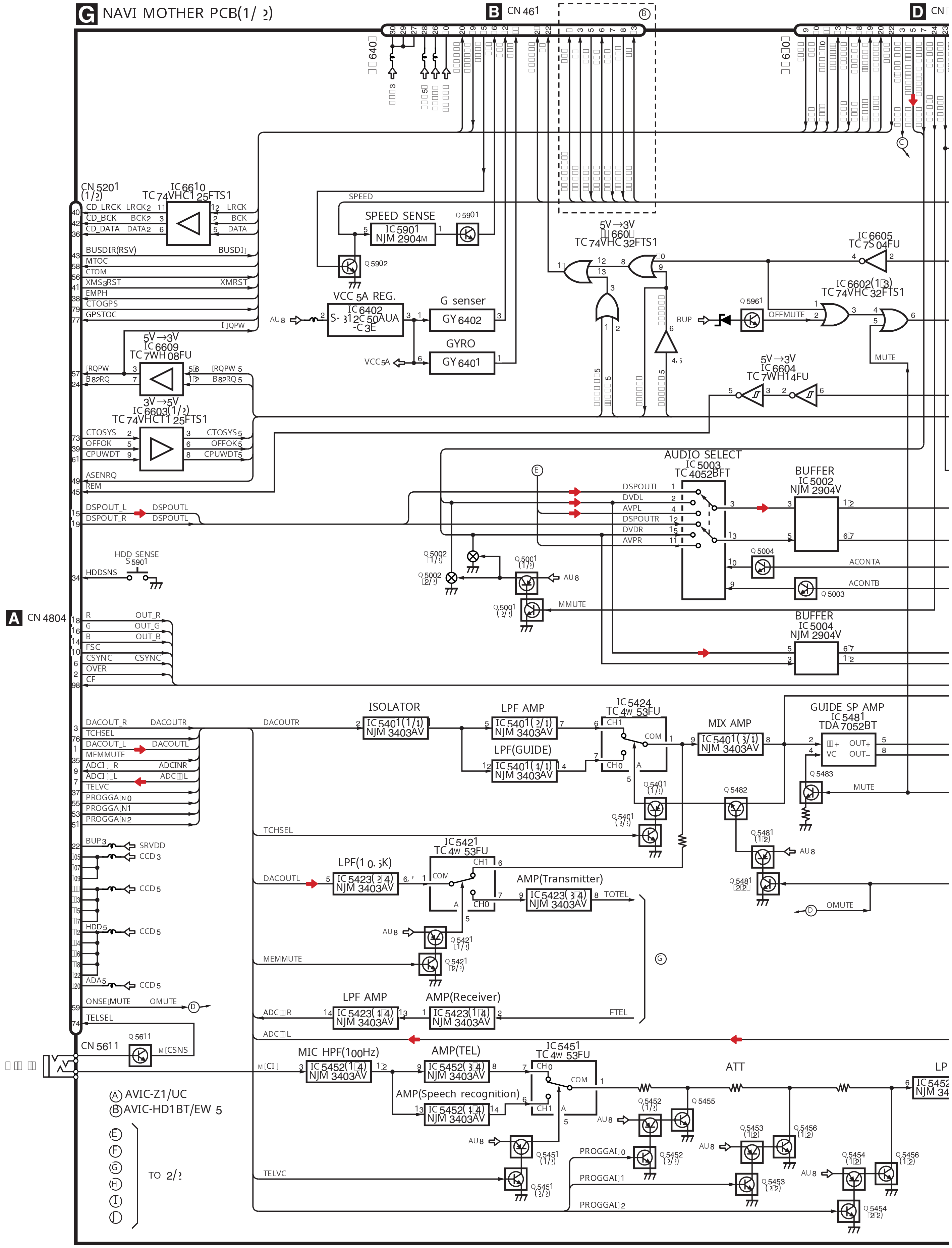
D DVD CORE UNIT

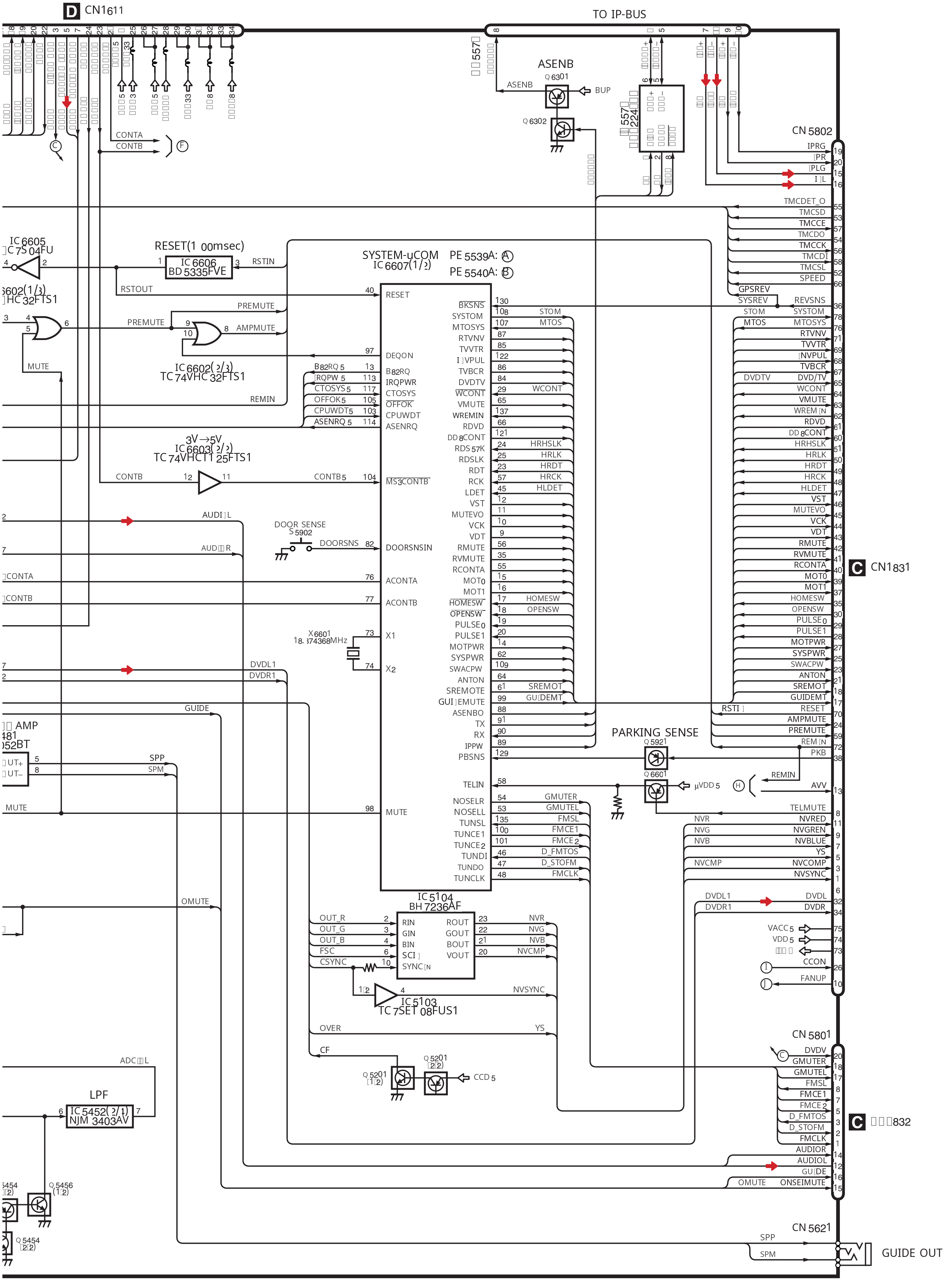


CN1101
Q1101
Q1102
Q1105
Q1104
Q1103
65LD
78LD
VSHF
VCC5
CD/DVD
TEMP
VREF1
VCC
SW
OEIC
A
B1
B2
RF-
B3
RF+
B4
C
MDC
65MD
78MD
F+
F-
T-
T+
FOP
FOM
TOP
TOM
FEP
IC1101
AN8703FH
LPCO1
LPCO2
TBAL
FBAL
TEOUT
ASOUT
FEN
FEOUT
DFL TON
DFL TOP
OFTR
BDO
RFENV
TESTSG
STDI
SEN
SCK
LPC1
LPC2
TEY
ASF
FEY
ARF-
ARF+
SOCOMN
LTFEP
SCKCOMN
FG
SODC
IC1301
MNZS26EDCUB
AD1
AD2
AD0
NARF
ARF
AD3
MON0
DVDLOCK
CDLOCK
OSC
MCK16
NRESET
NORD
DA1
NCS1FX
NCS3FX
DA0
NDMACK
DMARQ
OHRST
OIORD
ODA1
OCS1FX
OCS3FX
ODA0
ODMACK
ODMARQ
BUFFER
IC1403
TC74LCX244FTS1
DA2
MASTER
NTRQ
NWR
ODA2
OMASTER
OINTRQ
OIOWR
BUFFER
IC1405
TC74LCX244FTS1
HDD0-7
OHDD8-15
BUS BUFFER
IC1401
TC74LCX245F
XOE
DVD POWER CONTROL
IC1201
BA5985FM
VO3(+)
VO3(-)
VO4(+)
VO4(-)
OPIN4(+)
OPIN4(-)
OPOUT4
OPIN3(+)
OPIN3(-)
OPOUT3
OPIN1(+)
OPIN1(-)
OPOUT1
OPIN2(+)
OPOUT2
VHALF
FD
TD
CRGDRV
MD
DAC1
DAC0
TRSDRV
SPDRV
NRD
NWR
NRST
NCS
WAITODC
XRD
XWR
XODCRES
XCSODC
INT2
INT1
INT0
IC1402
TC7SH04FUS1
A0-17
D0-7
FLASH M
PD
A1-20
D0-15
SRA
M5M5V21
A1-17
CN1201
SW CH
HOME
HALL_BIAS+
HALL_U+
HALL_U-
HALL_V+
HALL_V-
HALL_W+
HALL_W-
HALL_BIAS-
COIL_U
COIL_W
COIL_V
CRGD1
CRGD2
CRGD3
CRGD4
DVD MOTOR CONTROL
IC1202
AN8471SAT1
H1H
H1L
H2H
H2L
H3H
H3L
VHB
EC
START
FG1
CONT
COM
COP
VO1(-)
VO1(+)
REV
FWD
MUTE
EJECT
LOAD
CPU(2/2)
IC1701
PE5511A
CRGSENS
SCKCOMN
WAKEUP
PHOTOSNES
DSCSNS
DISCSENS
CLKOUT
IC1502
TC74VCX74
1D
1CK
1Q
XSRAMWR1
BUFFER
IC1505
TC7PA04FU
E
COMPOUND UNIT(A)
12cm
8cm
Disc sens
Disc sens
8cm
S1201
S1202
S1203
S1204
S1205
CN1202
12cm
8cm
DISC DETECT
8cm
PHOTO
VDD33
WAKEUP DETECT
Q1201
WAKEUP
PHOTOSNES
F
COMPOUND UNIT(B)
CLAMP SW
S1206
DSCSNS

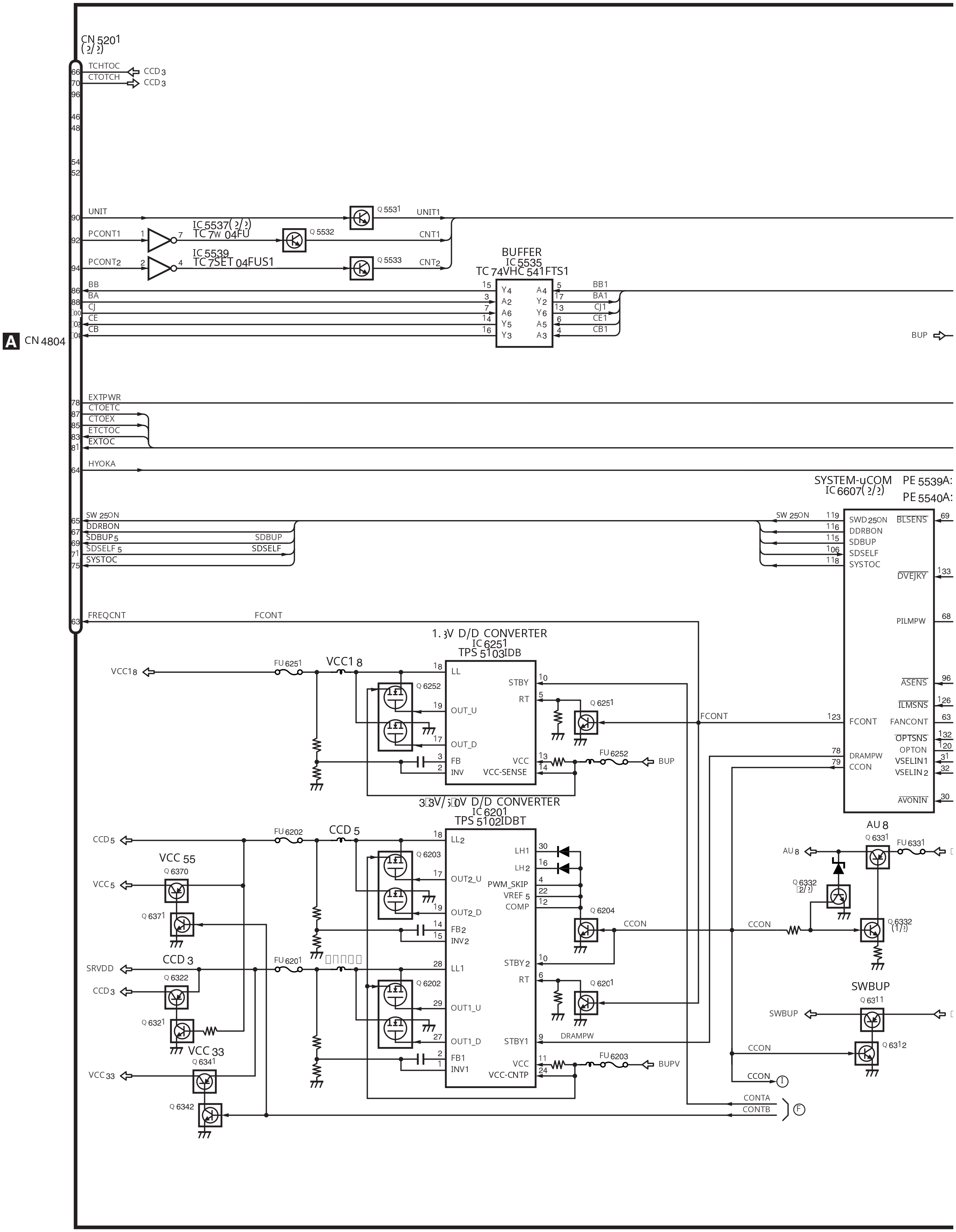

A
B
C
D
E
F
CN1401
CN6803
H
HDD 0-15
CN1603
CLOCK GEN.
IC1507
SM8707FV
X1501
27MHz
MCK16
SO1
FSEL
XTI
XTO
AO2
MO1
EXTCK1
CLK27
CPU(1/2)
IC1701
PE5511A
FS44/48
FSSW
VPP
DTR
RXPC
TXPC
SCOMN
XAVCHK_ENT
AMUTE
VCONTB
EMPH
VCONTA
XRESET
XRES
HSTCMD
SLVSTS
LTDAC
SCKCOMN
SOCOMN
XSODCINT2
XSODCINT1
XSODCINT0
NHDKI AODC
XCSODC
XODCRES
BUSISO
DMAON
A0-20
D0-15
X2
X1
X1701
4.7MHz
BUS BUFFER
IC1401
TC74LCX245FTS1
HDD 0-7
D8-15
HDD8-15
XOE
IC1402
TC7SH04FUS1
HRST
DA1
CS1FX
CS3FX
DA0
DMACK
DMARQ
DA2
MASTER
INTRQ
IOWR
STCLK
STENABLE
STVALID
IORDY
IOCS16
FLASH MEMORY(16M)
IC1705
PD6527A
A1-20
D0-15
WE
CE
OE
XWR
XCSFM
XRD
XLWR
XCSFLSH
SRAM(2M)
IC1702
M5M5V216ATP-70HI
A1-17
BC2
BC1
S
XUBE
XLBE
XCSSR
XSRAMWR
XCSSRAM
IC1706
TC7SH08FUS1
XCSAVR
XCSAVW
XCSAV
XAVINT
XAVINT2
XAVRES
AUDIO 2CH ANALOG OUT
IC1602
NJM2100M
IC1605
PCM1742KE
VOUTL
VOUTR
VCOM
ML
MC
MD
DATA
BCKIN
LRCKIN
MCLK
2CH
SRCK
LRCK
DACCLK
LOUT
ROUT
IC1604
NJM2100V
CN1611
VCC18
VD8
VCC33
SRVDD
VCC5
VDD33
AMUTE
VCONTB
EMPH
VCONTA
XRES
XRESET
RQPWR
HSTCMD
SLVSTS
BUSDI
ANALOG R OUT
ANALOG L OUT
VIDEO OUT
AVCC5
G
CN6101
AV CHIP
IC1503
MN677531KAUB
VCLK
CLK27
EXTCK
VSTROBE
VRQ
AUDSTR
DMI
DACCK
XCS
XHINT
XHINT2
XRST
XRD
STD 0-7(OHDD 8-15)
HCLK
VCBOUT
XWRH
XWR
Q1501
CN1501
CN5601
IC1502
TC74VCX74FT
IC1504
TC74VCX74FT
XHWR
XSRAMWR1
XWR1
CLKOUT1
BUFFER
IC1505
TC7PA04FU
MDQ 0-15
MA0-11
SDRAM
IC1501
K4S641632H-TC75
DQMLM
XWE
XCAS
XRAS
XCSM
DQMUE
MCK
MCK1
DQMUM
XCSE
DQML
WE
CAS
RAS
CS
BA1
CLK
DQMU
A11

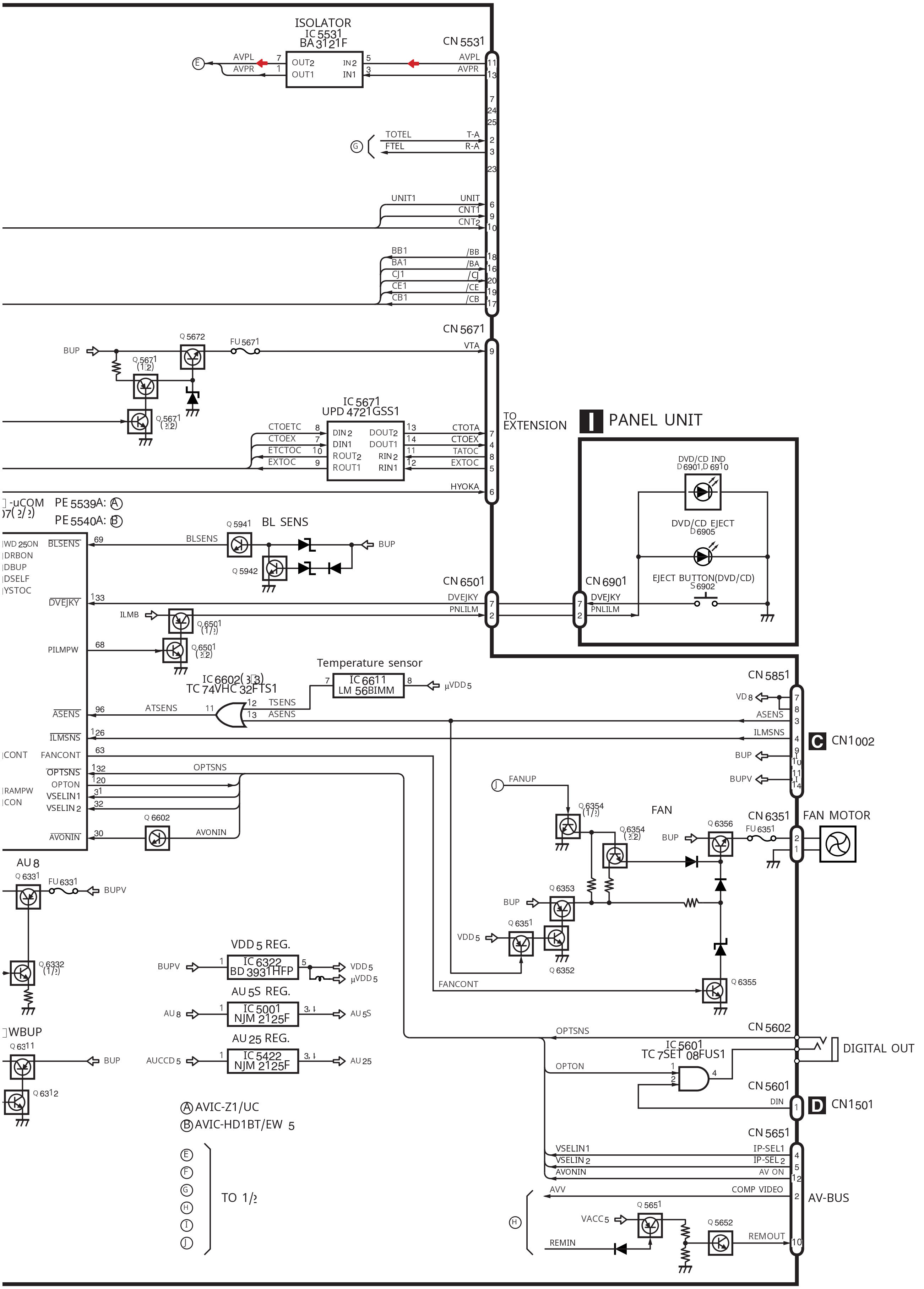
G NAVI MOTHER PCB(1/2)


B CN461
D CN
CN5201 (1/2)
IC6610 TC74VHC125FTS1
CD_LRCK
CD_BCK
CD_DATA
BUSDIR(RSV)
MTOC
CTOM
XMS3RST
EMPH
CTOGPS
GPSTOC
SPEED
SPEED SENSE
IC5901 NJM2904M
Q5901
Q5902
VCC5A REG.
IC6402 S-312C50AUA-C3E
G senser
GY6402
GYRO
GY6401
AU8
VCC5A
5V→3V IC6609 TC7WH08FU
3V→5V IC6603(1/2) TC74VHCT125FTS1
CTOSYS
OFFOK
CPUWDT
ASENRQ
REM
5V→3V TC74VHC32FTS1
IC6605 TC7S04FU
IC6602(1/3) TC74VHC32FTS1
BUP
Q5961
OFFMUTE
MUTE
5V→3V IC6604 TC7WH14FU
AUDIO SELECT IC5003 TC4052BFT
DSPOUTL
DVDL
AVPL
DSPOUTR
DVDR
AVPR
BUFFER IC5002 NJM2904V
ACONTA
ACONTB
Q5004
Q5003
DSPOUT_L
DSPOUT_R
HDD SENSE S5901
HDDSNS
Q5002
Q5001
MMUTE
BUFFER IC5004 NJM2904V
A CN4804
R OUT_R
G OUT_G
B OUT_B
FSC
CSYNC
OVER
CF
DACOUT_R
TCHSEL
DACOUT_L
MEMMUTE
ADCIN_R
ADCIN_L
TELVC
PROGGAIN0
PROGGAIN1
PROGGAIN2
ISOLATOR
IC5401(1/4) NJM3403AV
LPF AMP
IC5401(2/4) NJM3403AV
LPF(GUIDE)
IC5401(4/4) NJM3403AV
IC5424 TC4W53FU
COM
CH1
CH0
MIX AMP
IC5401(3/4) NJM3403AV
GUIDE SP AMP
IC5481 TDA7052BT
Q5483
Q5482
Q5401
Q5481
IC5421 TC4W53FU
LPF(10.5K)
IC5423(2/4) NJM3403AV
AMP(Transmitter)
IC5423(3/4) NJM3403AV
TOTEL
OMUTE
Q5421
BUP3
SRVDD
CCD3
CCD5
HDD5
ADA5
ONSEIMUTE
TELSEL
LPF AMP
IC5423(4/4) NJM3403AV
AMP(Receiver)
IC5423(1/4) NJM3403AV
FTEL
CN5611
Q5611
MICSNS
MIC HPF(100Hz)
IC5452(1/4) NJM3403AV
AMP(TEL)
IC5452(3/4) NJM3403AV
IC5451 TC4W53FU
AMP(Speech recognition)
IC5452(4/4) NJM3403AV
ATT
LP
IC5452 NJM34
Q5451
Q5452
Q5455
Q5453
Q5456
Q5454
(A) AVIC-Z1/UC
(B) AVIC-HD1BT/EW5
(E)
(F)
(G)
(H)
(I)
(J)
TO 2/2

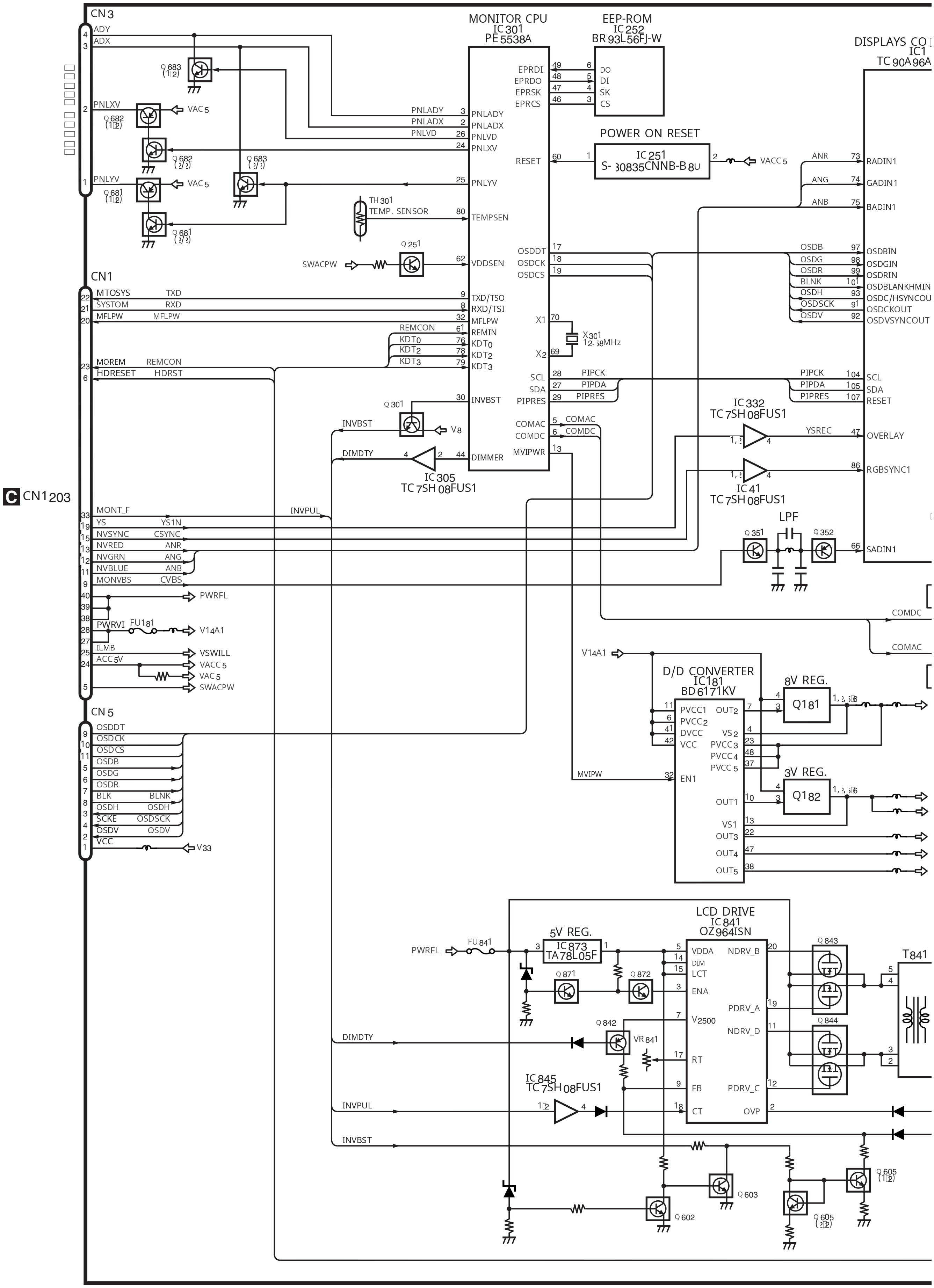

D CN1611
TO IP-BUS
ASENB
Q6301
BUP
Q6302
CN5802
IPRG
TMCDET_O
TMCSD
TMCCE
TMCDO
TMCCK
TMCSL
SPEED
GPSREV
SYSREV
REVSNS
STOM
SYSTOM
MTOS
MTOSYS
RTVNV
TVVTR
TVBCR
DVDTV
WCONT
VMUTE
RDVD
HRHSLK
HRLK
HRDT
HRCK
HLDET
VST
MUTEVO
VCK
VDT
RMUTE
RVMUTE
RCONTA
MOT0
MOT1
HOMESW
OPENSW
PULSE0
PULSE1
MOTPWR
SYSPWR
SWACPW
ANTON
SREMOT
GUIDEMT
RESET
AMPMUTE
PREMUTE
PKB
C CN1831
IC6605
RESET(100msec)
IC6606
BD5335FVE
RSTIN
RSTOUT
IC6602(1/3)
TC74VHC32FTS1
PREMUTE
AMPMUTE
IC6602(2/3)
TC74VHC32FTS1
MUTE
REMIN
SYSTEM-uCOM
IC6607(1/2)
PE5539A: Ⓐ
PE5540A: Ⓑ
RESET
DEQON
CTOSYS
OFFOK
CPUWDT
ASENRQ
3V→5V
IC6603(2/2)
TC74VHCT125FTS1
CONTA
CONTB
MS3CONTB
AUDIL
AUDIR
DOOR SENSE
S5902
DOORSNS
DOORSNSIN
ACONTA
ACONTB
X6601
18.874368MHz
X1
X2
DVDL1
DVDR1
GUIDE
AMP
SPP
SPM
PARKING SENSE
Q5921
Q6601
µVDD5
REMIN
AVV
TELIN
TELMUTE
NOSELR
NOSELL
TUNSL
TUNCE1
TUNCE2
TUNDI
TUNDO
TUNCLK
GMUTER
GMUTEL
FMSL
FMCE1
FMCE2
D_FMTOS
D_STOFM
FMCLK
NVRED
NVGREN
NVBLUE
YS
NVCOMP
NVSYNC
MUTE
IC5104
BH7236AF
OUT_R
OUT_G
OUT_B
FSC
CSYNC
RIN
GIN
BIN
SCIN
SYNCIN
ROUT
GOUT
BOUT
VOUT
NVR
NVG
NVB
NVCMP
IC5103
TC7SET08FUS1
NVSYNC
OVER
CF
Q5201
CCD5
OMUTE
DVDL
DVDR
VACC5
VDD5
CCON
FANUP
CN5801
DVDV
AUDIOR
AUDIOL
GUIDE
ONSEIMUTE
C 832
ADC L
LPF
IC5452(2/2)
NJM3403AV
Q5456
Q5454
CN5621
GUIDE OUT

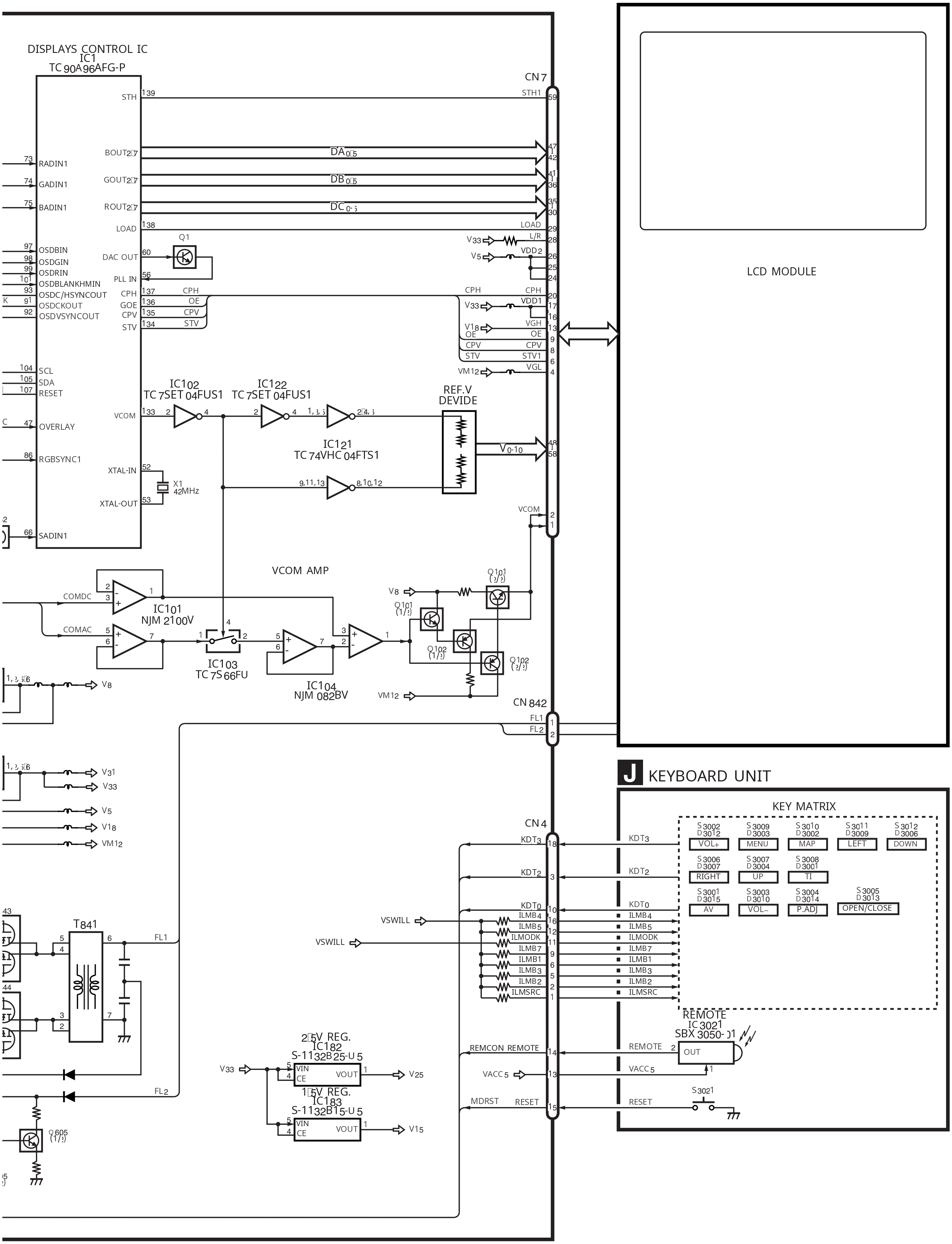
G NAVI MOTHER PCB(2/2)


A
B
C
D
E
F
CN5201
(2/2)
TCHTOC
CTOTCH
CCD3
A CN4804
UNIT
PCONT1
PCONT2
IC5537(2/2)
TC7W04FU
IC5539
TC7SET04FUS1
Q5531
Q5532
Q5533
UNIT1
CNT1
CNT2
BUFFER
IC5535
TC74VHC541FTS1
BB
BA
CJ
CE
CB
BB1
BA1
CJ1
CE1
CB1
BUP
EXTPWR
CTOETC
CTOEX
ETCTOC
EXTOC
HYOKA
SW25ON
DDRBON
SDBUP5
SDSELF5
SYSTOC
SDBUP
SDSELF
SYSTEM-uCOM
IC6607(2/2)
PE5539A:
PE5540A:
SWD25ON
BLSENS
DVEJKY
PILMPW
ASENS
ILMSNS
FANCONT
OPTSNS
OPTON
VSELIN1
VSELIN2
AVONIN
DRAMPW
CCON
FCONT
FREQCNT
1.8V D/D CONVERTER
IC6251
TPS5103IDB
VCC18
FU6251
VCC18
LL
OUT_U
OUT_D
FB
INV
STBY
RT
VCC
VCC-SENSE
Q6252
Q6251
FU6252
3.3V/5.0V D/D CONVERTER
IC6201
TPS5102IDBT
CCD5
FU6202
VCC55
Q6370
VCC5
Q6371
LL2
OUT2_U
OUT2_D
FB2
INV2
LH1
LH2
PWM_SKIP
VREF5
COMP
STBY2
Q6203
Q6204
CCD3
SRVDD
FU6201
Q6322
Q6321
Q6202
LL1
OUT1_U
OUT1_D
FB1
INV1
STBY1
VCC-CNTP
Q6201
VCC33
Q6341
Q6342
FU6203
BUPV
AU8
Q6331
FU6331
Q6332
(2/2)
(1/2)
SWBUP
Q6311
Q6312
CCON
CONTA
CONTB
I
F

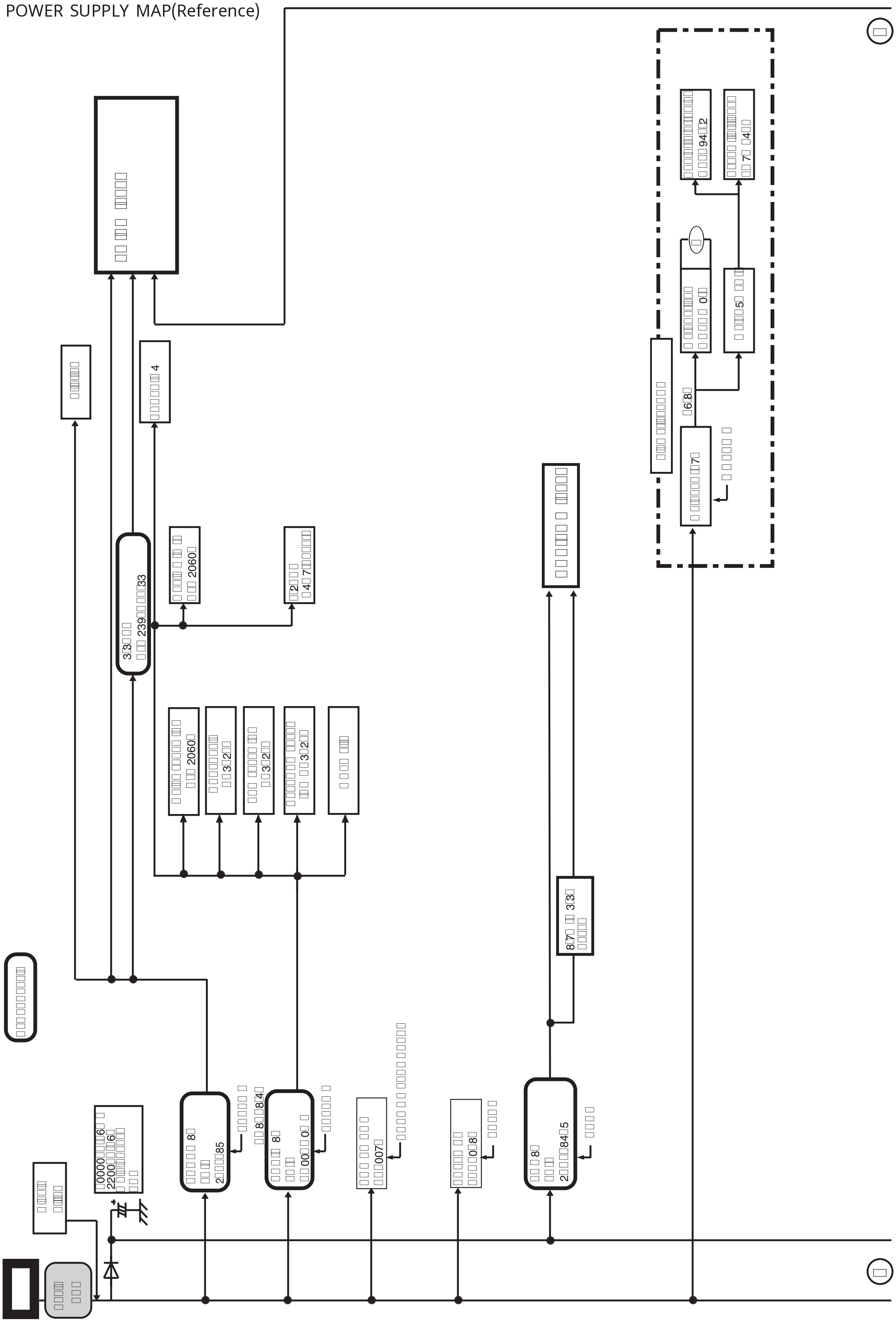

ISOLATOR
IC 5531
BA3121F
CN 5531
AVPL
AVPR
OUT2
OUT1
IN2
IN1
TOTEL
FTEL
T-A
R-A
UNIT1
UNIT
CNT1
CNT2
BB1
BA1
CJ1
CE1
CB1
/BB
/BA
/CJ
/CE
/CB
CN 5671
Q 5672
FU 5671
BUP
VTA
Q 5671 (1/2)
Q 5671 (2/2)
IC 5671
UPD 4721GSS1
CTOETC
CTOEX
ETCTOC
EXTOC
DIN2
DIN1
ROUT2
ROUT1
DOUT2
DOUT1
RIN2
RIN1
CTOTA
CTOEX
TATOC
EXTOC
HYOKA
TO EXTENSION
I PANEL UNIT
DVD/CD IND
D 6901,D 6910
DVD/CD EJECT
D 6905
EJECT BUTTON(DVD/CD)
S 6902
CN 6901
DVEJKY
PNLILM
-uCOM
PE 5539A: Ⓐ
PE 5540A: Ⓑ
BL SENS
Q 5941
Q 5942
BLSENS
WD 25ON
DRBON
DBUP
DSELF
YSTOC
CN 6501
DVEJKY
PNLILM
ILMB
Q 6501 (1/2)
Q 6501 (2/2)
PILMPW
Temperature sensor
IC 6611
LM 56BIMM
μVDD 5
IC 6602 (3/3)
TC 74VHC 32FTS1
TSENS
ASENS
ATSENS
CN 5851
VD 8
ASENS
ILMSNS
BUP
BUPV
C CN1002
FANCONT
OPTSNS
OPTON
VSELIN1
VSELIN2
AVONIN
RAMPW
CON
Q 6602
AVONIN
FANUP
Q 6354 (1/2)
Q 6354 (2/2)
FAN
Q 6356
CN 6351
FAN MOTOR
FU 6351
Q 6353
Q 6351
Q 6352
VDD 5
Q 6355
FANCONT
AU 8
Q 6331
FU 6331
BUPV
Q 6332 (1/2)
VDD 5 REG.
IC 6322
BD 3931HFP
VDD 5
μVDD 5
AU 5S REG.
IC 5001
NJM 2125F
AU 8
AU 5S
AU 25 REG.
IC 5422
NJM 2125F
AUCCD 5
AU 25
WBUP
Q 6311
Q 6312
Ⓐ AVIC-Z1/UC
Ⓑ AVIC-HD1BT/EW 5
Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ TO 1/2
CN 5602
OPTSNS
IC 5601
TC 7SET 08FUS1
OPTON
DIGITAL OUT
CN 5601
DIN
D CN1501
CN 5651
VSELIN1
VSELIN2
AVONIN
IP-SEL1
IP-SEL2
AV ON
AVV
COMP VIDEO
AV-BUS
Q 5651
VACC5
Q 5652
REMIN
REMOUT

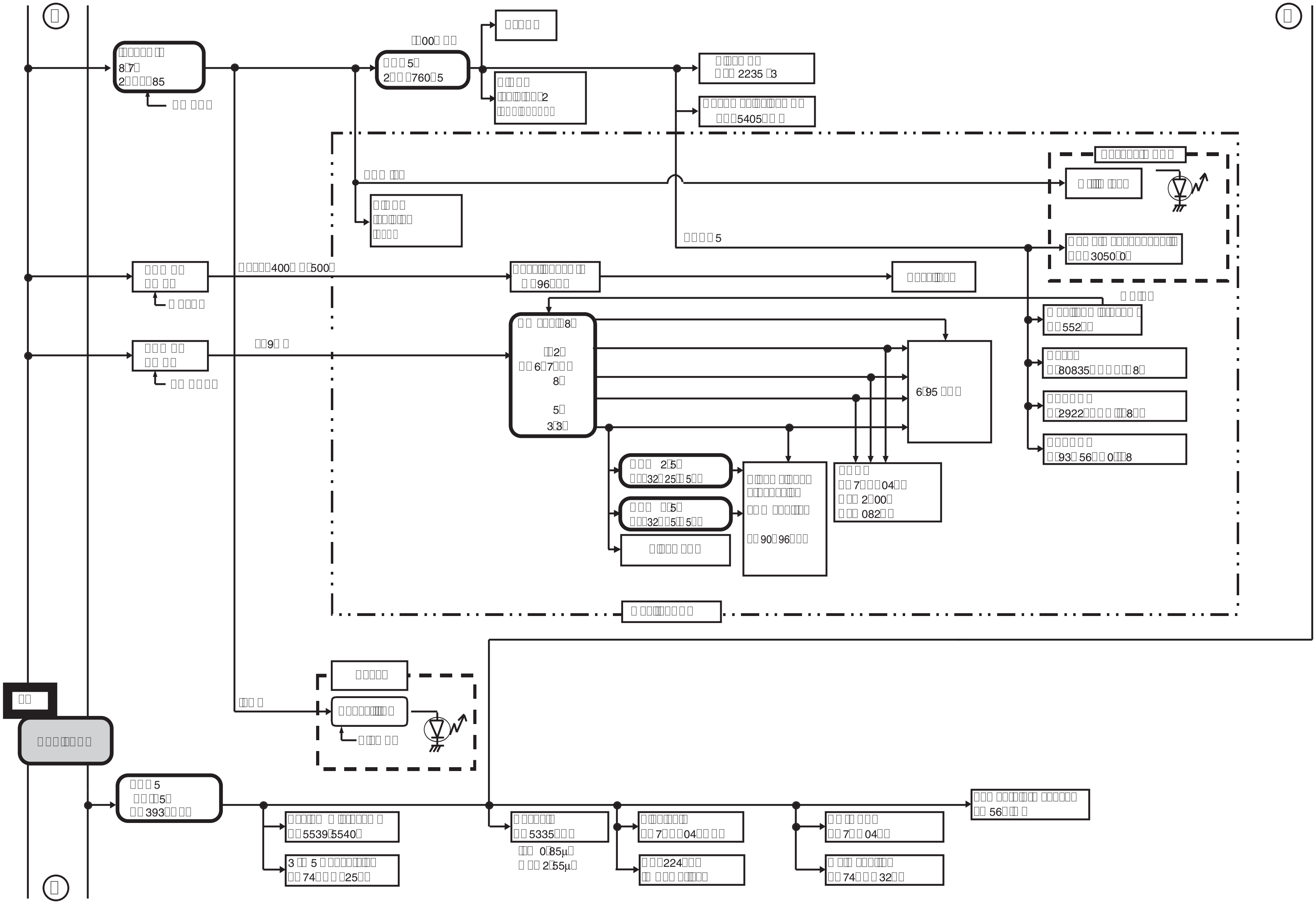
K MONITOR UNIT


A
B
C
D
E
F
CN3
ADY
ADX
PNLXV
PNLYV
Q683 (1/2)
Q682 (1/2)
Q682 (2/2)
Q683 (2/2)
Q681 (1/2)
Q681 (2/2)
VAC5
MONITOR CPU
IC301
PE5538A
PNLADY
PNLADX
PNLVD
PNLXV
PNLYV
TEMPSEN
VDDSEN
TXD/TSO
RXD/TSI
MFLPW
REMIN
KDT0
KDT2
KDT3
INVBST
DIMMER
EPRDI
EPRDO
EPRSK
EPRCS
RESET
OSDDT
OSDCK
OSDCS
X1
X2
SCL
SDA
PIPRES
COMAC
COMDC
MVIPWR
EEP-ROM
IC252
BR93L56FJ-W
DO
DI
SK
CS
POWER ON RESET
IC251
S-30835CNNB-B8U
VACC5
TH301
TEMP. SENSOR
Q251
SWACPW
X301
12.58MHz
REMCON
PIPCK
PIPDA
PIPRES
Q301
V8
IC305
TC7SH08FUS1
DISPLAYS CO
IC1
TC90A96A
ANR
ANG
ANB
RADIN1
GADIN1
BADIN1
OSDB
OSDG
OSDR
BLNK
OSDH
OSDSCK
OSDV
OSDBIN
OSDGIN
OSDRIN
OSDBLANKHMIN
OSDC/HSYNCOU
OSDCKOUT
OSDVSYNCOUT
SCL
SDA
RESET
IC332
TC7SH08FUS1
YSREC
OVERLAY
RGBSYNC1
IC41
TC7SH08FUS1
LPF
Q351
Q352
SADIN1
CN1
MTOSYS
SYSTOM
MFLPW
TXD
RXD
MOREM
HDRESET
HDRST
INVBST
DIMDTY
C CN1203
MONT_F
INVPUL
YS
YS1N
NVSYNC
CSYNC
NVRED
NVGRN
NVBLUE
MONVBS
CVBS
PWRFL
PWRVI
FU181
V14A1
ILMB
ACC5V
VSWILL
VAC5
SWACPW
COMDC
COMAC
D/D CONVERTER
IC181
BD6171KV
PVCC1
PVCC2
DVCC
VCC
EN1
OUT2
VS2
PVCC3
PVCC4
PVCC5
OUT1
VS1
OUT3
OUT4
OUT5
MVIPW
8V REG.
Q181
3V REG.
Q182
CN5
OSDDT
OSDCK
OSDCS
OSDB
OSDG
OSDR
BLK
OSDH
SCKE
OSDV
VCC
V33
LCD DRIVE
IC841
OZ964ISN
5V REG.
IC873
TA78L05F
FU841
Q871
Q872
Q842
VR841
IC845
TC7SH08FUS1
VDDA
DIM
LCT
ENA
V2500
RT
FB
CT
NDRV_B
PDRV_A
NDRV_D
PDRV_C
OVP
Q843
Q844
T841
Q602
Q603
Q604
Q605 (1/2)
Q605 (2/2)

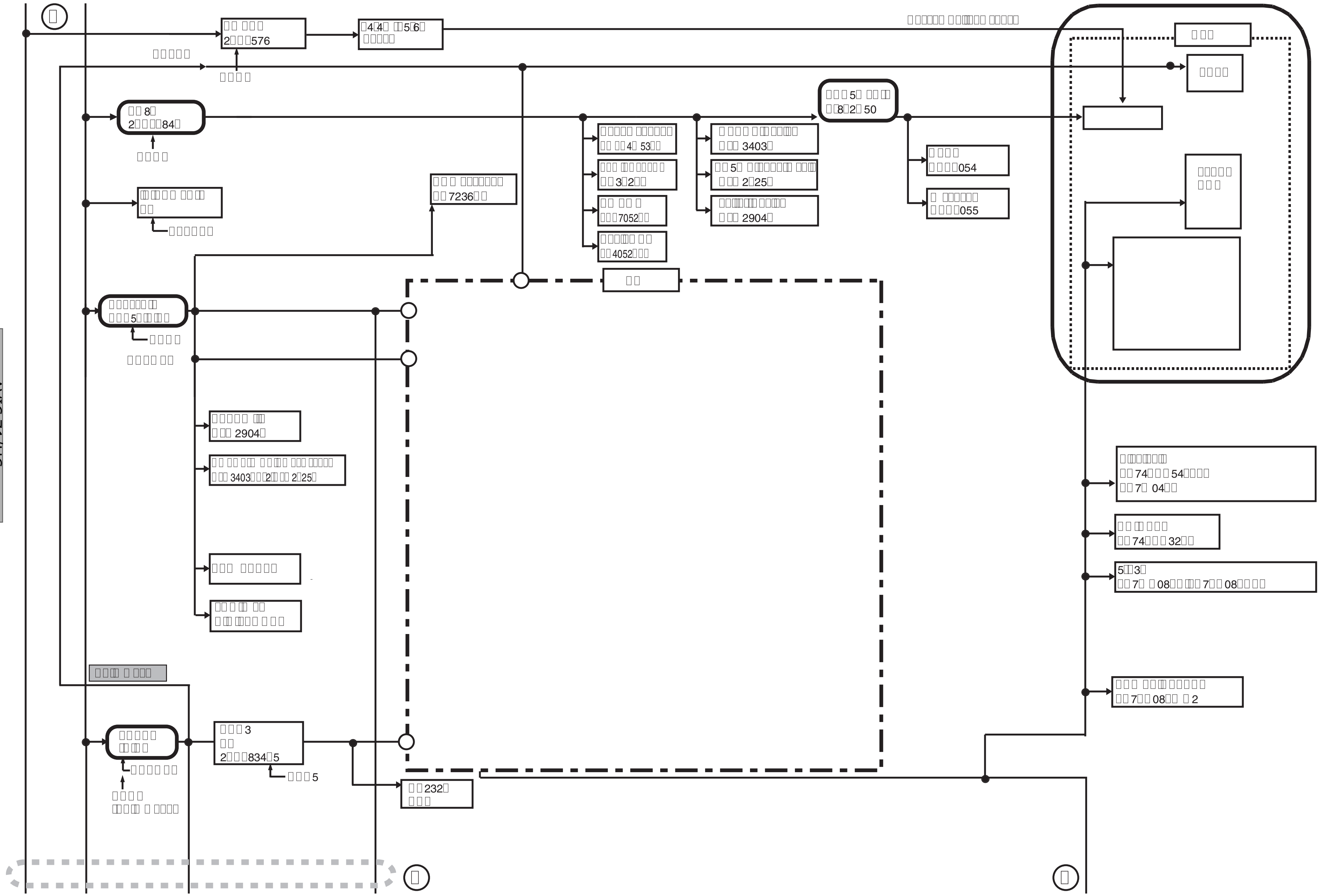

DISPLAYS CONTROL IC
IC1
TC90A96AFG-P
STH
BOUT2-7
GOUT2-7
ROUT2-7
LOAD
DAC OUT
PLL IN
CPH
GOE
CPV
STV
VCOM
XTAL-IN
XTAL-OUT
RADIN1
GADIN1
BADIN1
OSDBIN
OSDGIN
OSDRIN
OSDBLANKHMIN
OSDC/HSYNCOUT
OSDCKOUT
OSDVSYNCOUT
SCL
SDA
RESET
OVERLAY
RGBSYNC1
SADIN1
Q1
DA0-5
DB0-5
DC0-5
CN7
STH1
V33
V5
V18
VM12
L/R
VDD2
VDD1
VGH
OE
CPV
STV1
VGL
IC102
TC7SET04FUS1
IC122
TC7SET04FUS1
IC121
TC74VHC04FTS1
REF.V
DEVIDE
V0-10
X1
42MHz
VCOM
VCOM AMP
COMDC
COMAC
IC101
NJM2100V
IC103
TC7S66FU
IC104
NJM082BV
Q101
Q102
V8
CN842
FL1
FL2
V31
T841
LCD MODULE
J
KEYBOARD UNIT
KEY MATRIX
S3002 D3012 VOL+
S3009 D3003 MENU
S3010 D3002 MAP
S3011 D3009 LEFT
S3012 D3006 DOWN
S3006 D3007 RIGHT
S3007 D3004 UP
S3008 D3001 TI
S3001 D3015 AV
S3003 D3010 VOL−
S3004 D3014 P.ADJ
S3005 D3013 OPEN/CLOSE
CN4
KDT3
KDT2
KDT0
VSWILL
ILMB4
ILMB5
ILMODK
ILMB7
ILMB1
ILMB3
ILMB2
ILMSRC
REMOTE
IC3021
SBX3050-01
OUT
REMCON REMOTE
VACC5
MDRST
RESET
S3021
2.5V REG.
IC182
S-1132B25-U5
1.5V REG.
IC183
S-1132B15-U5
VIN
CE
VOUT
V25
V15
Q605

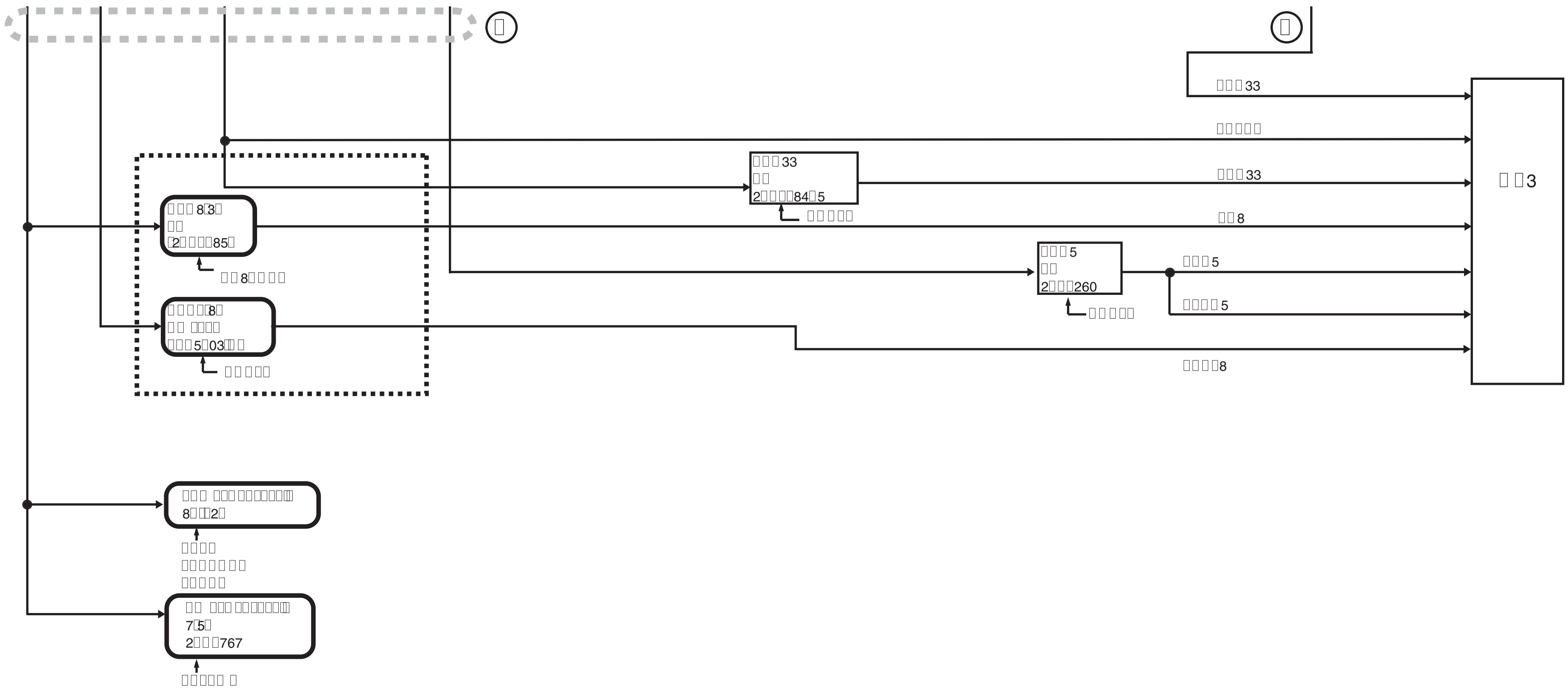
POWER SUPPLY MAP(Reference)





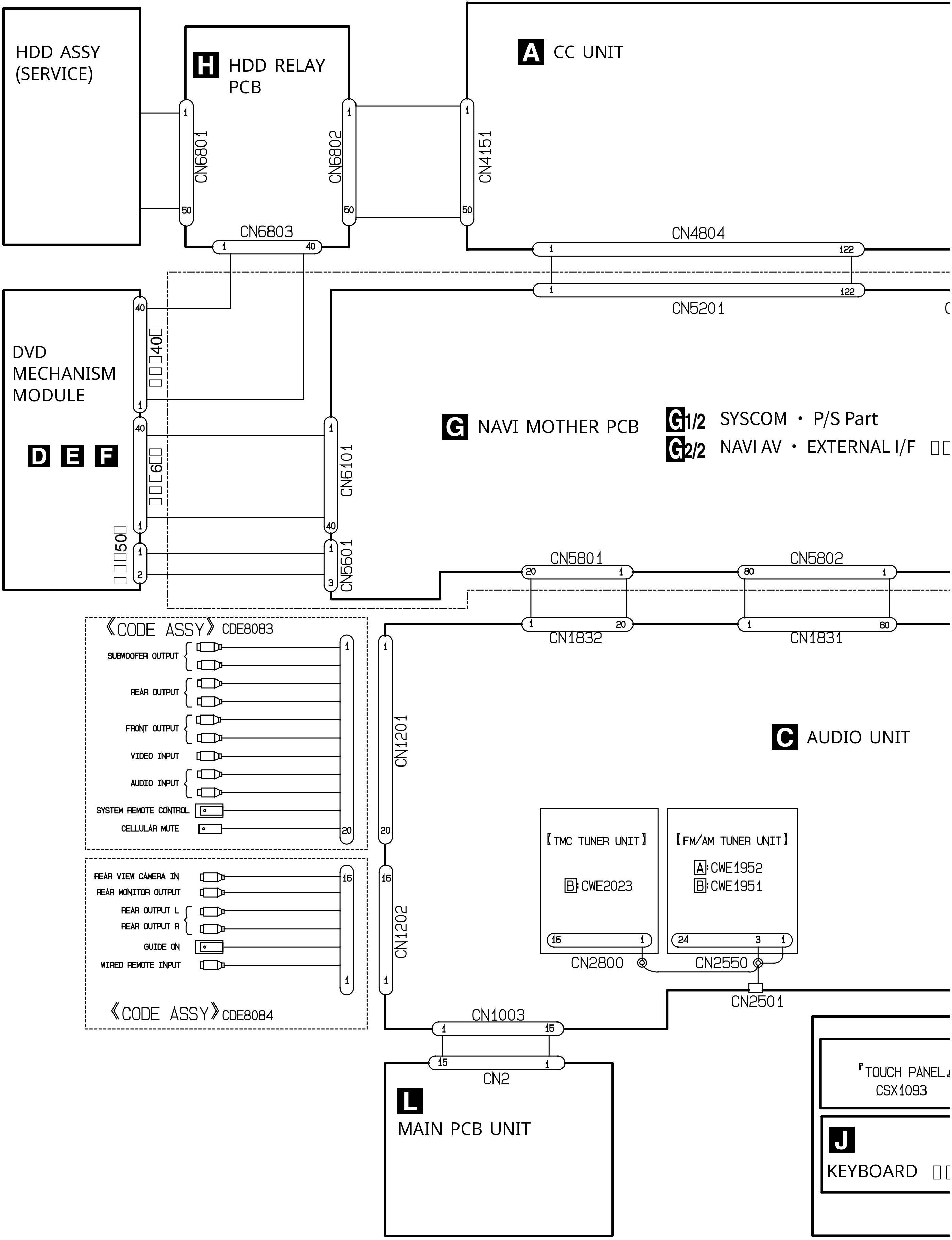
5
6
7
8
F
E
D
C
B
A




3
33
33
8
5
5
8
33
2 84 5
5
2 260
8 3
2 85
8
8
5 03
8 2
7 5
2 767

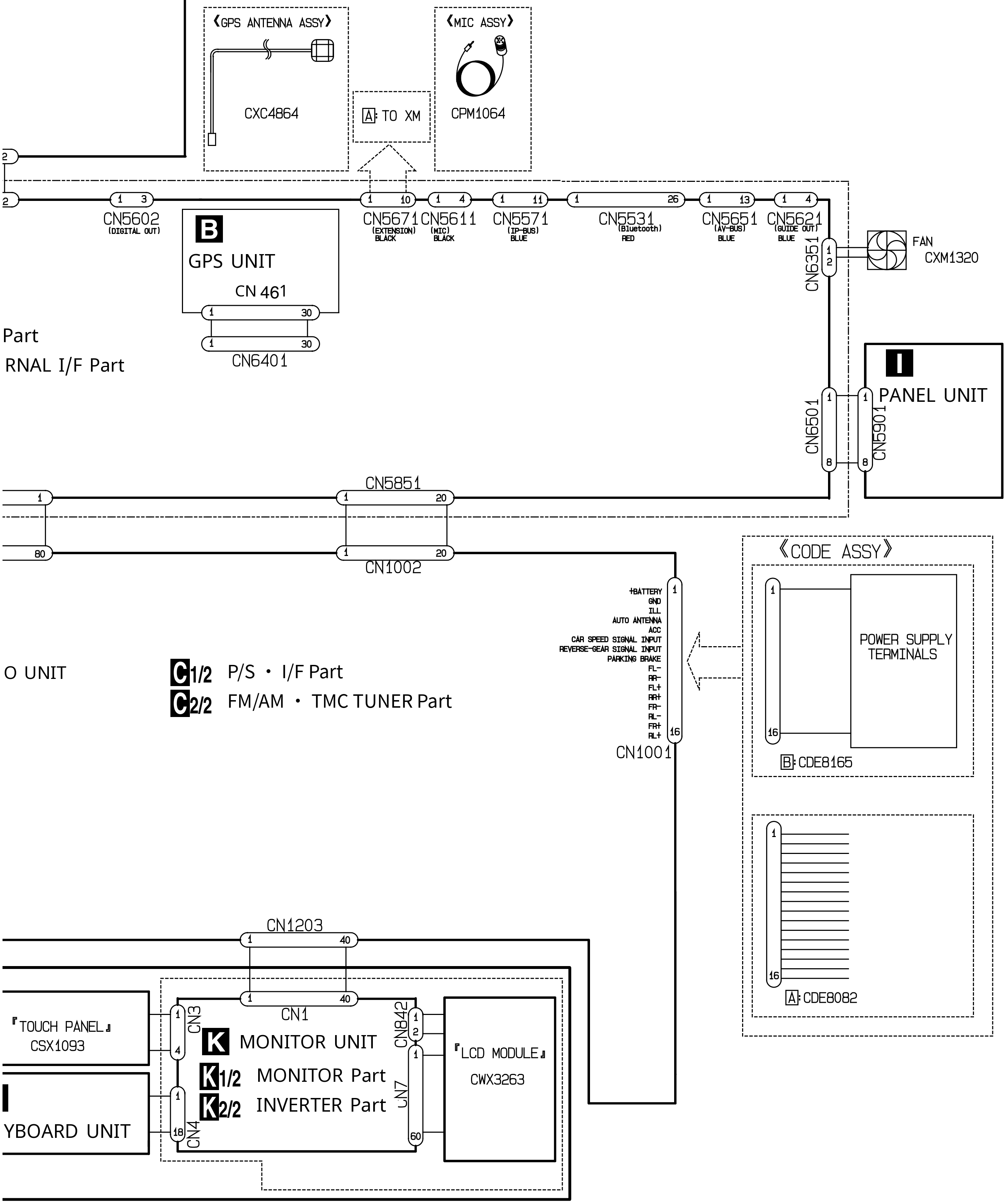
3.2 OVERALL CONNECTION DIAGRAM

Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

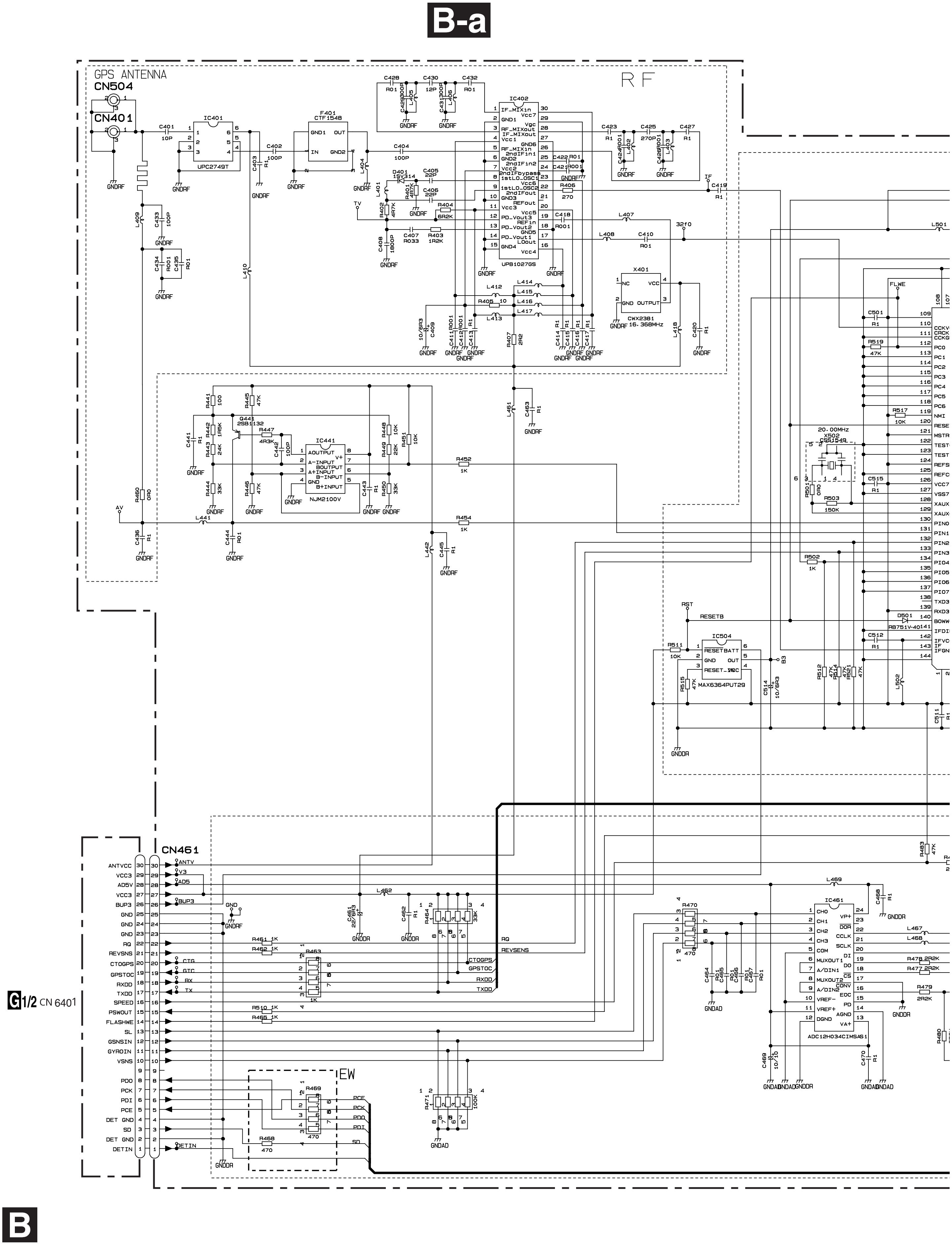

HDD ASSY (SERVICE)
H HDD RELAY PCB
CN6801
CN6802
CN6803
A CC UNIT
CN4151
CN4804
CN5201
DVD MECHANISM MODULE
D E F
40
6
50
G NAVI MOTHER PCB
G1/2 SYSCOM ・ P/S Part
G2/2 NAVI AV ・ EXTERNAL I/F
CN6101
CN5601
CN5801
CN5802
CN1832
CN1831
《CODE ASSY》CDE8083
SUBWOOFER OUTPUT
REAR OUTPUT
FRONT OUTPUT
VIDEO INPUT
AUDIO INPUT
SYSTEM REMOTE CONTROL
CELLULAR MUTE
CN1201
REAR VIEW CAMERA IN
REAR MONITOR OUTPUT
REAR OUTPUT L
REAR OUTPUT R
GUIDE ON
WIRED REMOTE INPUT
《CODE ASSY》CDE8084
CN1202
C AUDIO UNIT
【TMC TUNER UNIT】
B: CWE2023
CN2800
【FM/AM TUNER UNIT】
A: CWE1952
B: CWE1951
CN2550
CN2501
CN1003
CN2
L MAIN PCB UNIT
『TOUCH PANEL』
CSX1093
J KEYBOARD

A	AVIC-Z1/UC
B	AVIC-HD1BT/EW5

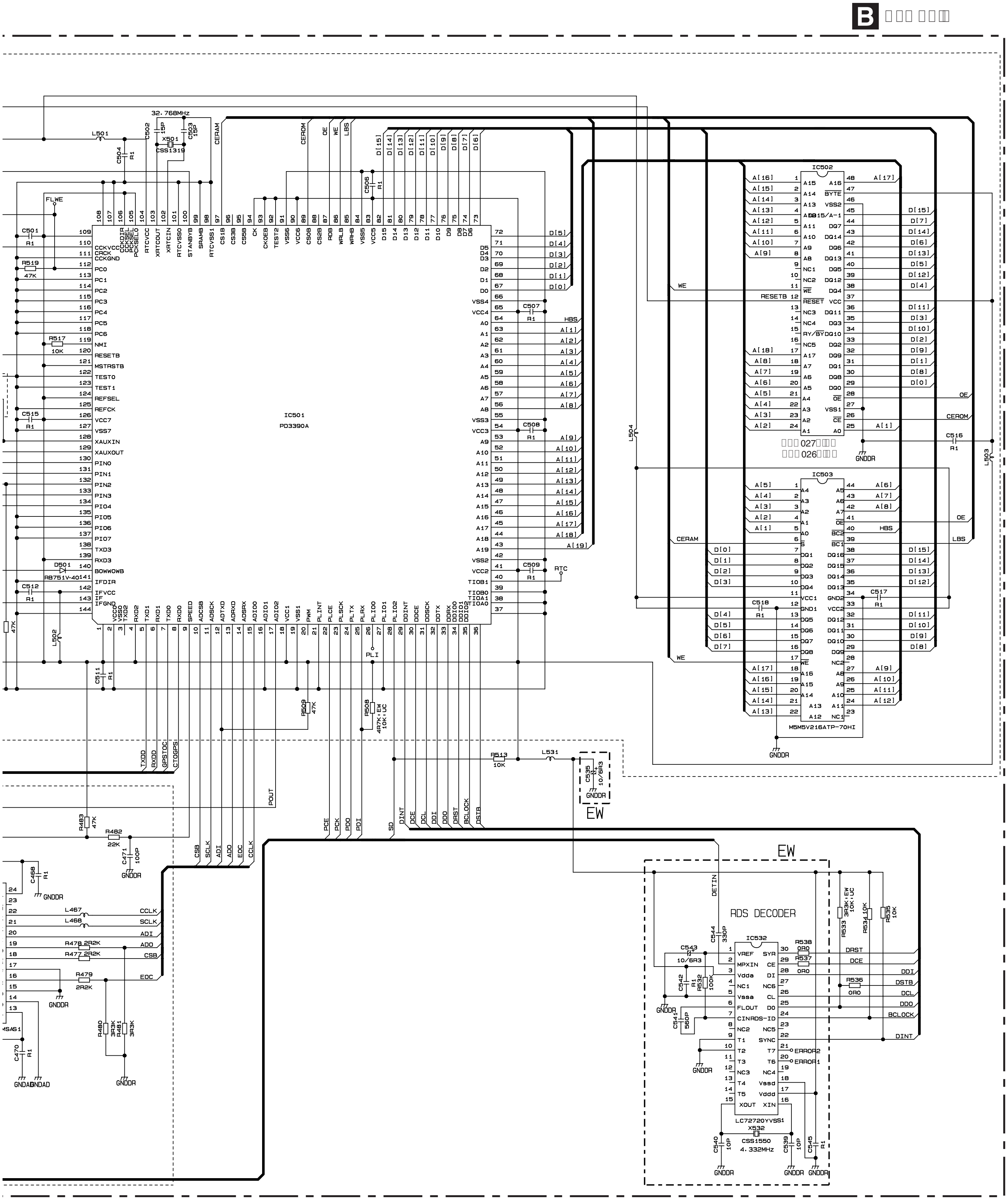
※ It is common when not writing A and B.


《GPS ANTENNA ASSY》
CXC4864
A: TO XM
《MIC ASSY》
CPM1064
2
2
CN5602
(DIGITAL OUT)
1 3
B
GPS UNIT
CN 461
1 30
1 30
CN6401
CN5671
(EXTENSION)
BLACK
1 10
CN5611
(MIC)
BLACK
1 4
CN5571
(IP-BUS)
BLUE
1 11
CN5531
(Bluetooth)
RED
1 26
CN5651
(AV-BUS)
BLUE
1 13
CN5621
(GUIDE OUT)
BLUE
1 4
CN6351
1 2
FAN
CXM1320
Part
RNAL I/F Part
CN6501
1 8
CN5901
1 8
I
PANEL UNIT
CN5851
1 20
1
80
CN1002
1 20
《CODE ASSY》
+BATTERY
GND
ILL
AUTO ANTENNA
ACC
CAR SPEED SIGNAL INPUT
REVERSE-GEAR SIGNAL INPUT
PARKING BRAKE
FL-
RR-
FL+
RR+
FR-
RL-
FR+
RL+
1
16
CN1001
1
16
POWER SUPPLY TERMINALS
B: CDE8165
1
16
A: CDE8082
O UNIT
C1/2 P/S · I/F Part
C2/2 FM/AM · TMC TUNER Part
CN1203
1 40
1 40
CN1
『TOUCH PANEL』
CSX1093
CN3
1 4
K MONITOR UNIT
K1/2 MONITOR Part
K2/2 INVERTER Part
CN842
1 2
CN7
1 60
『LCD MODULE』
CWX3263
CN4
1 18
YBOARD UNIT

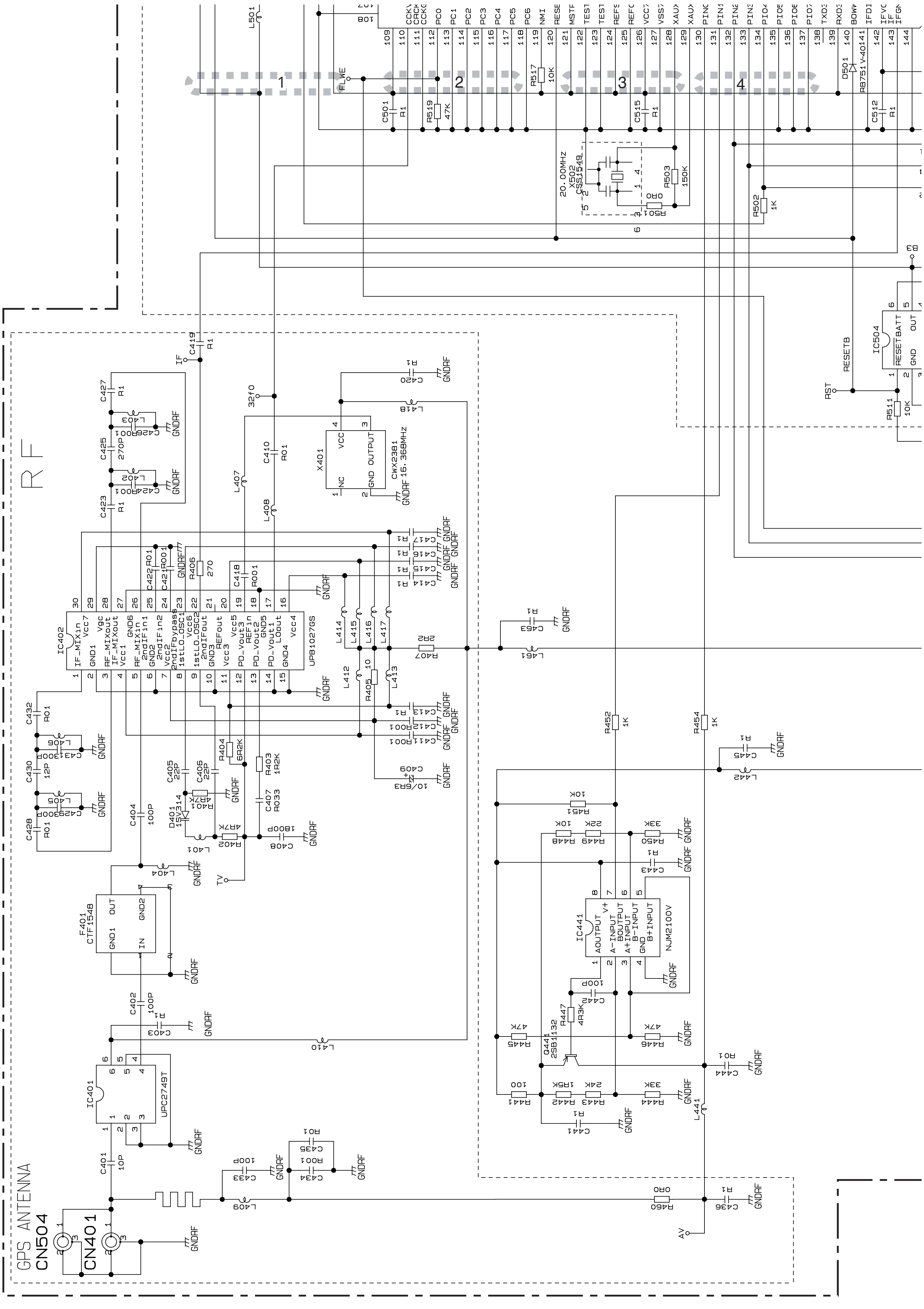
3.3 GPS UNIT(GUIDE PAGE)


B-a
GPS ANTENNA
CN504
CN401
R F
IC401
UPC2749T
F401
CTF1548
GND1
OUT
IN
GND2
C401
10P
C402
100P
C403
R1
C404
100P
L404
L401
D401
1SV314
C405
22P
C406
22P
R401
4R7K
R402
4R7K
R404
6R2K
R403
1R2K
C407
R033
C408
1800P
C428
R01
C429
300P
L405
C430
12P
C431
300P
L406
C432
R01
IC402
UPB1027GS
IF_MIXin
GND1
RF_MIXout
Vcc1
RF_MIXin
GND2
Vcc2
1stLO_OSC1
1stLO_OSC2
GND3
Vcc3
PD_Vout3
PD_Vout2
PD_Vout1
GND4
Vcc7
Vgc
IF_MIXout
GND6
2ndIFin1
2ndIFin2
2ndIFbypass
Vcc6
2ndIFout
REFout
Vcc5
REFin
GND5
LOout
Vcc4
C422
R01
C421
R001
R406
270
C418
R001
C423
R1
C424
R001
L402
C425
270P
C426
R001
L403
C427
R1
IF
C419
R1
L407
L408
C410
R01
32f0
TV
X401
CWX2381
16.368MHz
NC
VCC
GND
OUTPUT
L409
C433
100P
C434
R001
C435
R01
L410
L412
L413
L414
L415
L416
L417
R405
10
C409
10/6R3
C411
R001
C412
R001
C413
R1
R407
2R2
C414
R1
C415
R1
C416
R1
C417
R1
L418
C420
R1
GNDRF
L461
C463
R1
R441
100
R442
1R5K
R443
24K
R444
33K
R445
47K
R446
47K
Q441
2SB1132
R447
4R3K
C441
R1
C442
100P
IC441
NJM2100V
AOUTPUT
A-INPUT
A+INPUT
GND
V+
BOUTPUT
B-INPUT
B+INPUT
R448
10K
R449
22K
R450
33K
R451
10K
C443
R1
R452
1K
R454
1K
R450
0R0
AV
L441
C436
R1
C444
R01
L442
C445
R1
L501
FLWE
C501
R1
R519
47K
R517
10K
20.00MHz
X502
CSS1549
R501
0R0
R503
150K
C515
R1
R502
1K
RST
RESETB
D501
RB751V-40
C512
R1
IC504
MAX6364PUT29
RESET
BATT
GND
OUT
RESET_IN
VCC
R511
10K
R515
47K
C514
10/6R3
B3
R512
47K
R514
47K
R521
47K
L502
C511
R1
GNDDR
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
108
107
CCKV
CRCK
CCKG
PC0
PC1
PC2
PC3
PC4
PC5
PC6
NMI
RESE
MSTR
TEST
TEST
REFS
REFC
VCC7
VSS7
XAUX
XAUX
PIN0
PIN1
PIN2
PIN3
PIO4
PIO5
PIO6
PIO7
TXD3
RXD3
BOWW
IFDI
IFVC
IF
IFGN
CN461
ANTVCC
VCC3
AD5V
VCC3
BUP3
GND
GND
GND
RQ
REVSNS
CTOGPS
GPSTOC
RXDD
TXDD
SPEED
PSWOUT
FLASHWE
SL
GSNSIN
GYROIN
VSNS
PDO
PCK
PDI
PCE
DET GND
SD
DET GND
DETIN
ANTV
V3
AD5
BUP3
CTG
GTC
RX
TX
DETIN
G1/2
CN 6401
C461
22/6R3
L462
C462
R1
R464
33K
R461
1K
R462
1K
R463
1K
R510
1K
R465
1K
RQ
REVSENS
CTOGPS
GPSTOC
RXDD
TXDD
EW
R469
470
R468
470
R471
100K
PCE
PCK
PDO
PDI
SD
GNDAD
R470
470
C464
R01
C465
R01
C466
R01
C467
R01
L469
IC461
ADC12H034CIMSAS1
CH0
CH1
CH2
CH3
COM
MUXOUT1
A/DIN1
MUXOUT2
A/DIN2
VREF-
VREF+
DGND
VP+
DOR
CCLK
SCLK
DI
DO
CS
CONV
EOC
PD
AGND
VA+
C468
R1
L467
L468
R478
2R2K
R477
2R2K
R479
2R2K
R480
R483
47K
C469
10/10
C470
R1
GNDDR
GNDAD
B

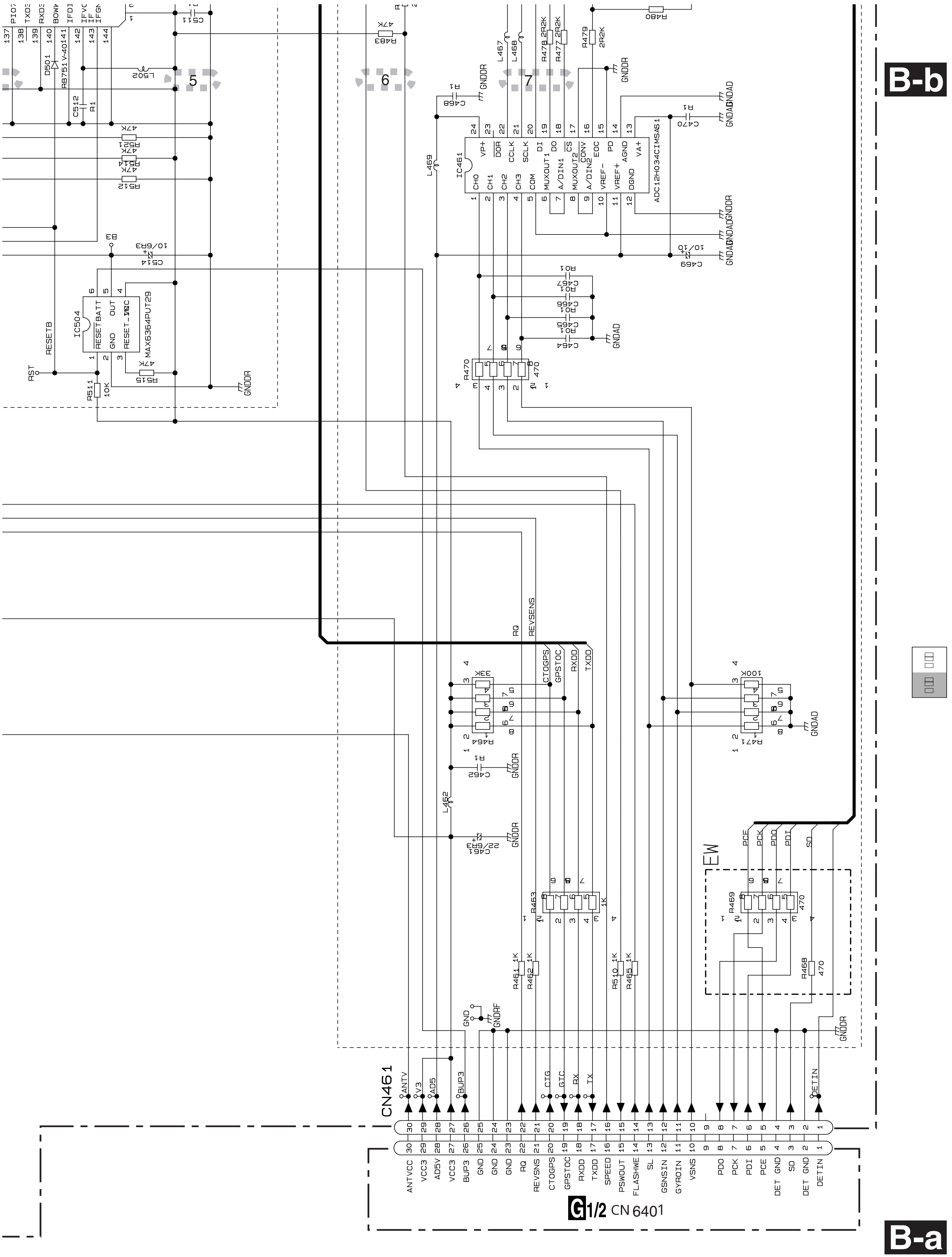
B-b


B
IC501
PD3390A
IC502
IC503
M5M5V216ATP-70HI
027
026
IC532
LC72720YVSS1
RDS DECODER
EW
EW
X501
CSS1319
32.768MHz
X532
CSS1550
4.332MHz
D501
RB751V-40
L501
L502
L503
L504
L531
L467
L468
R517 10K
R519 47K
R483 47K
R482 22K
R509 47K
R508 4R7K:EW 10K:UC
R513 10K
R532 100K
R533 3R3K:EW 10K:UC
R534 10K
R535 10K
R536 0R0
R537 0R0
R538 0R0
R476 2R2K
R477 2R2K
R479 2R2K
R480 3R3K
R481 3R3K
C501 R1
C502 15P
C503 15P
C504 R1
C506 R1
C507 R1
C508 R1
C509 R1
C511 R1
C512 R1
C515 R1
C516 R1
C517 R1
C518 R1
C535 10/6R3
C539 10P
C540 10P
C541 560P
C542 R1
C543 10/6R3
C544 330P
C545 R1
C468 R1
C470 R1
C471 100P
GNDDR
GNDAD
FLWE
RTC
PLI
HBS
CERAM
CEROM
OE
WE
LBS
RESETB
TXDD
RXDD
GPSTOC
CTOGPS
POUT
CSB
SCLK
ADI
ADO
EOC
CCLK
PCE
PCK
PDO
PDI
SD
DINT
DCE
DCL
DDI
DDO
DRST
BCLOCK
DSTB
DETIN
ERROR2
ERROR1
D[0]–D[15]
A[1]–A[19]

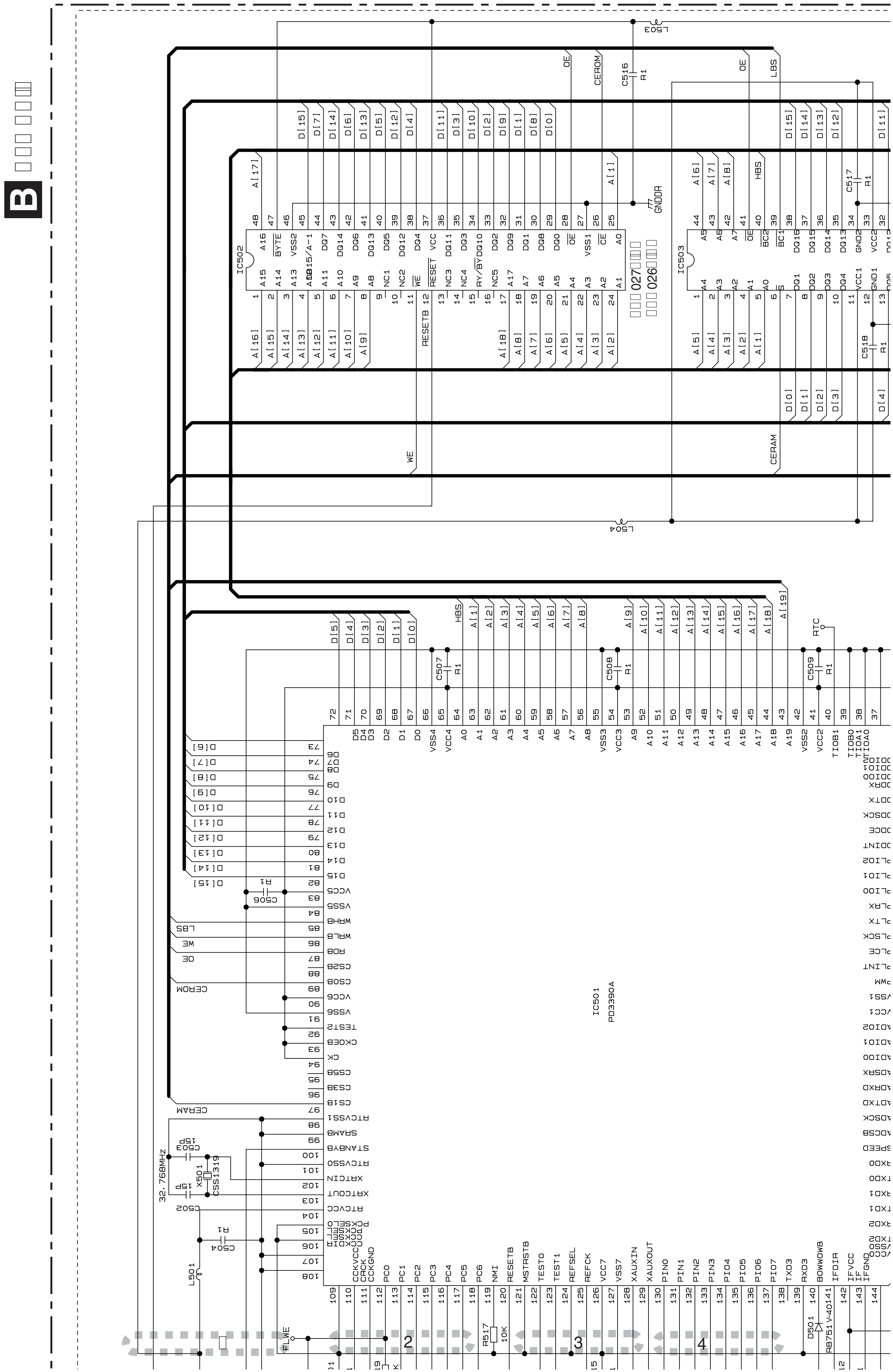
B-b


RF
GPS ANTENNA
CN504
CN401
IC401
UPC2749T
IC402
UPB1027GS
IF_MIXin
Vcc7
GND1
Vgc
RF_MIXout
IF_MIXout
Vcc1
GND6
RF_MIXin
2ndIFin1
GND2
2ndIFin2
Vcc2
2ndIFbypass
1stLO_OSC1
Vcc6
1stLO_OSC2
2ndIFout
GND3
REFout
Vcc3
Vcc5
PD_Vout3
REFin
PD_Vout2
GND5
PD_Vout1
LOout
GND4
Vcc4
F401
CTF1548
GND1
IN
OUT
GND2
X401
CWX2381
16.368MHz
VCC
OUTPUT
NC
GND
IC441
NJM2100V
AOUTPUT
A-INPUT
A+INPUT
GND
V+
BOUTPUT
B-INPUT
B+INPUT
Q441
2SB1132
D401
1SV314
IC504
RESET
BATT
OUT
GND
RESETB
RST
X502
CSS1549
20.00MHz
D501
RB751V-40
FLWE
IF
32f0
TV
AV
GNDRF
C401 10P
C402 100P
C403 R1
C404 100P
C405 22P
C406 22P
C407 R033
C408 1800P
C409 10/6R3
C410 R01
C411 R001
C412 R001
C413 R1
C414 R1
C415 R1
C416 R1
C417 R1
C418 R001
C419 R1
C420 R1
C421 R001
C422 R01
C423 R1
C424 R001
C425 270P
C426 R001
C427 R1
C428 R01
C429 300P
C430 12P
C431 300P
C432 R01
C433 100P
C434 R001
C435 R01
C436 R1
C441 R1
C442 100P
C443 R1
C444 R01
C445 R1
C453 R1
C501 R1
C512 R1
C515 R1
L401
L402
L403
L404
L405
L406
L407
L408
L409
L410
L412
L413
L414
L415
L416
L417
L418
L441
L442
L461
L501
R402 4R7K
R403 1R2K
R404 6R2K
R405 10
R406 270
R407 2R2
R408 4R7K
R441 100
R442 1R5K
R443 24K
R444 33K
R445 47K
R446 47K
R447 4R3K
R448 10K
R449 22K
R450 33K
R451 10K
R452 1K
R454 1K
R460 0R0
R501 0R0
R502 1K
R503 150K
R511 10K
R517 10K
R519 47K
B3
1
2
3
4
109 CCK
110 CCK
111 CCK
112 PC0
113 PC1
114 PC2
115 PC3
116 PC4
117 PC5
118 PC6
119 NMI
120 RESE
121 MSTF
122 TEST
123 TEST
124 REFS
125 REFC
126 VCC7
127 VSS7
128 XAU
129 XAU
130 PIN0
131 PIN1
132 PIN2
133 PIN3
134 PIO4
135 PIO5
136 PIO6
137 PIO7
138 TXD3
139 RXD3
140 BOW
141 IFDI
142 IFVC
143 IF
144 IFGN

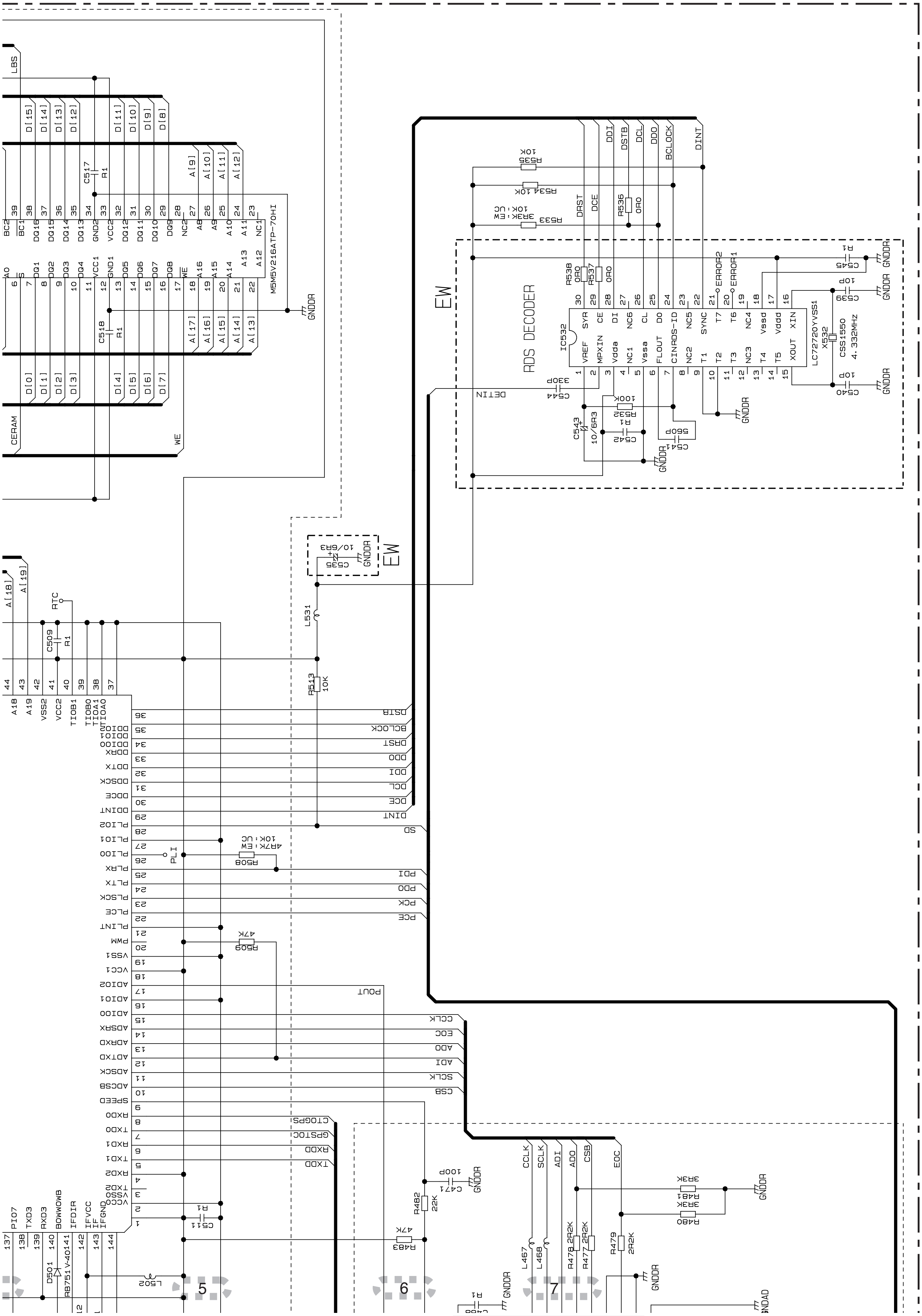
B-a



5
6
7
8
A
B
C
D
E
F
B-b
B-a
IC461
ADC12H034CIMSAS1
CH0
CH1
CH2
CH3
COM
MUXOUT1
A/DIN1
MUXOUT2
A/DIN2
VREF-
VREF+
DGND
VP+
DOR
CCLK
SCLK
DI
DO
CS
CONV
EOC
PD
AGND
VA+
IC504
MAX6364PUT29
RESET
BATT
GND
RESET_IN
OUT
VCC
RESETB
RST
B3
D501
RB751V-40
L502
C511
C512
C514
10/6R3
R511
10K
R512
R514
R515
R521
47K
R483
47K
L467
L468
L469
R477 2R2K
R478 2R2K
R479 2R2K
R480
C468
C469
C470
C464
C465
C466
C467
R470
470
R464
33K
R471
100K
C462
C461
22/6R3
L462
R463
1K
R469
470
R468
470
R461 1K
R462 1K
R510 1K
R465 1K
EW
PCE
PCK
PDO
PDI
SD
RQ
REVSENS
CTOGPS
GPSTOC
RXDD
TXDD
GNDDR
GNDAD
GNDRF
GND
CN461
ANTV
V3
AD5
BUP3
CTG
GTC
RX
TX
DETIN
ANTVCC
VCC3
AD5V
VCC3
BUP3
GND
GND
GND
RQ
REVSNS
CTOGPS
GPSTOC
RXDD
TXDD
SPEED
PSWOUT
FLASHWE
SL
GSNSIN
GYROIN
VSNS
PDO
PCK
PDI
PCE
DET GND
SD
DET GND
DETIN
G 1/2 CN6401
137
138
139
140
141
142
143
144
PIO7
TXD3
RXD3
BOWN
IFD1
IFVC
IF
IFGN


B
IC502
IC503
IC501
PD3390A
L503
L504
C516 R1
C517 R1
C518 R1
C507 R1
C508 R1
C509 R1
C506 R1
C502
C503 15P
C504 R1
X501 CSS1319
32.768MHz
15P
L501
R517 10K
D501 RB751V-40141
FL.WE
RTC
OE
CEROM
LBS
CERAM
WE
HBS
RESETB
GNDDR
027
026
A16 BYTE VSS2 DQ15/A-1 DQ7 DQ14 DQ6 DQ13 DQ5 DQ12 DQ4 VCC DQ11 DQ3 DQ10 DQ2 DQ9 DQ1 DQ8 DQ0 OE VSS1 CE A0
A15 A14 A13 A12 A11 A10 A9 A8 NC1 NC2 WE RESET NC3 NC4 RY/BY NC5 A17 A7 A6 A5 A4 A3 A2 A1
D5 D4 D3 D2 D1 D0 VSS4 VCC4 A0 A1 A2 A3 A4 A5 A6 A7 A8 VSS3 VCC3 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19 VSS2 VCC2 TIOB1 TIOB0 TIOA1 TIOA0
D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 VCC5 VSS5 WRHB WRLB RDB CS2B CS0B VCC6 VSS6 TEST2 CKOEB CK CS5B CS3B CS1B RTCVSS1 SRAMB STANBYB RTCVSS0 XRTCIN XRTCOUT RTCVCC PCKSEL0 PCKSEL1 CKOEB DIR
CKVCC CRCK CKGND PC0 PC1 PC2 PC3 PC4 PC5 PC6 NMI RESETB MSTRSTB TEST0 TEST1 REFSEL REFCK VCC7 VSS7 XAUXIN XAUXOUT PIN0 PIN1 PIN2 PIN3 PIO4 PIO5 PIO6 PIO7 TXD3 RXD3 BOWWOWB IFDIR IFVCC IF IFGND

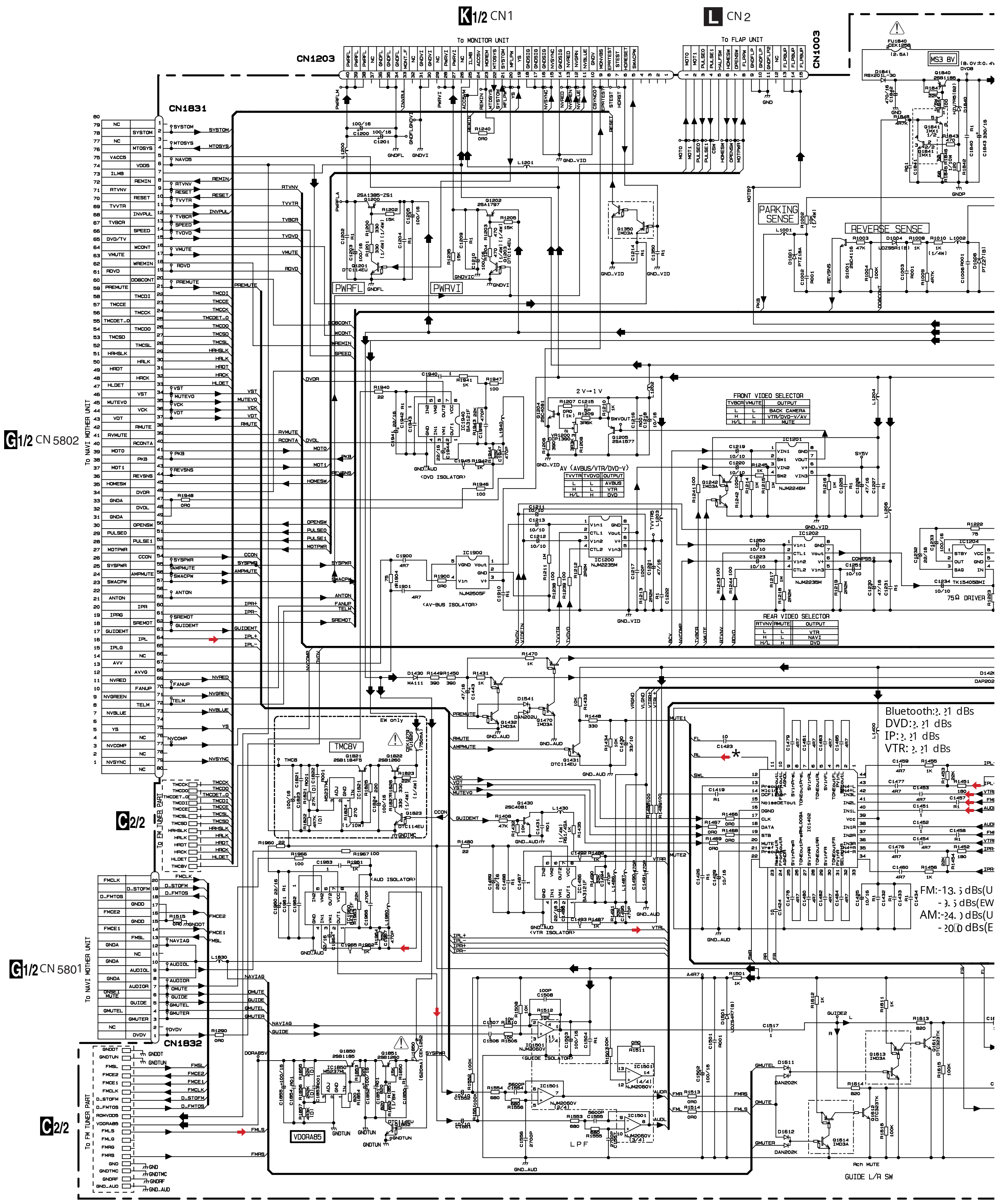
B-b


RDS DECODER
IC532
LC72720YVSS1
EW
X532
CSS1550
4.332MHz
R535 10K
R534 10K
R533 3R3K:EW 10K:UC
R536 0R0
R538 0R0
R537 0R0
C545 R1
C539 10P
C540 10P
C544 330P
C543 10/6R3
C542 R1
C541 560P
R532 100K
DETIN
DRST
DCE
DDI
DSTB
DCL
DDO
BCLOCK
DINT
ERROR2
ERROR1
VREF MPXIN Vdda NC1 Vssa FLOUT CINRDS-ID NC2 T1 T2 T3 NC3 T4 T5 XOUT
SYR CE DI NC6 CL DO NC5 SYNC T7 T6 NC4 Vssd Vddd XIN
GNDDR
M5M5V216ATP-70HI
C517 R1
C518 R1
D[0] D[1] D[2] D[3] D[4] D[5] D[6] D[7] D[8] D[9] D[10] D[11] D[12] D[13] D[14] D[15]
A[9] A[10] A[11] A[12] A[13] A[14] A[15] A[16] A[17] A[18] A[19]
LBS
CERAM
WE
BC2 BC1 DQ16 DQ15 DQ14 DQ13 GND2 VCC2 DQ12 DQ11 DQ10 DQ9 NC2 A8 A9 A10 A11 NC1
A0 S DQ1 DQ2 DQ3 DQ4 VCC1 GND1 DQ5 DQ6 DQ7 DQ8 WE A16 A15 A14 A13 A12
C535 10/6R3
L531
R513 10K
RTC
C509 R1
A18 A19 VSS2 VCC2 TIOB1 TIOB0 TIOA1 TIOA0
DDIO2 DDIO1 DDIO0 DDRX DDTX DDSCK DDCE DDINT PLIO2 PLIO1 PLIO0 PLRX PLTX PLSCK PLCE PLINT PWM VSS1 VCC1 ADIO2 ADIO1 ADIO0 ADSRX ADRXD ADTXD ADSCK ADCSB SPEED RXD0 TXD0 RXD1 TXD1 RXD2 TXD2 VSSO VCCO
DSTB BCLOCK DRST DDO DDI DCL DCE DINT SD PDI PDO PCK PCE
PLI
R508 4R7K:EW 10K:UC
R509 47K
POUT
CCLK EOC ADO ADI SCLK CSB
CTOGPS GPSTOC RXDD TXDD
C471 100P
R482 22K
R483 47K
C511 R1
L502
D501 RB751V-40141
PIO7 TXD3 RXD3 BOWWOWB IFDIR IFVCC IF IFGND
L467 L468
R478 2R2K
R477 2R2K
R479 2R2K
R481 3R3K
R480 3R3K
GNDAD
5 6 7

B-b

3.4 AUDIO UNIT(P/S•I/F)(GUIDE PAGE)

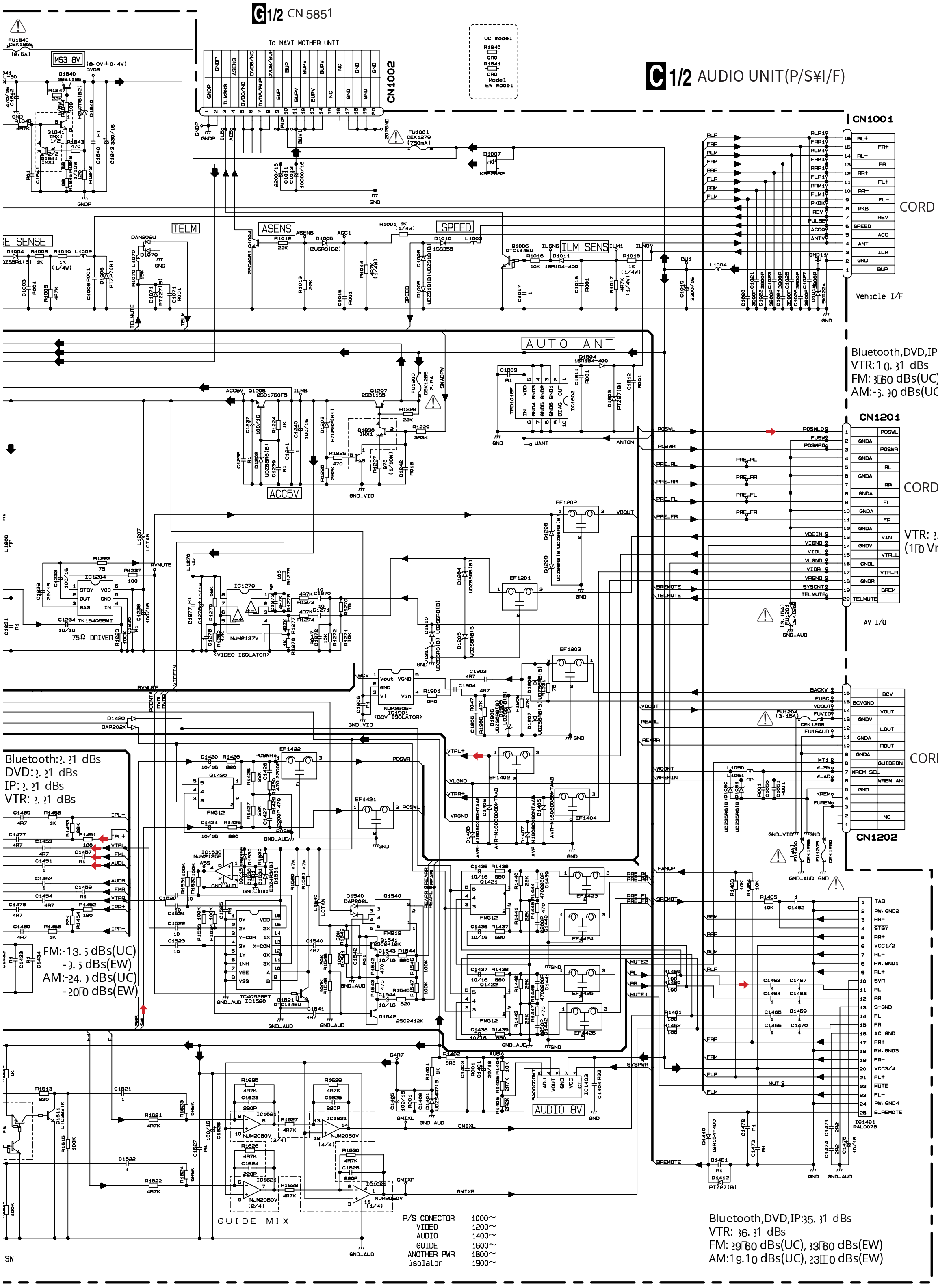
C-a 1/2


K1/2 CN1
To MONITOR UNIT
CN1203
L CN2
To FLAP UNIT
CN1003
CN1831
G1/2 CN5802
To NAVI MOTHER UNIT
G1/2 CN5801
To NAVI MOTHER UNIT
C2/2
TO FM TUNER PART
CN1832
PARKING SENSE
REVERSE SENSE
PWRFL
PWRVI
MS3 8V
FRONT VIDEO SELECTOR
AV (AVBUS/VTR/DVD-V)
REAR VIDEO SELECTOR
<DVD ISOLATOR>
<AV-BUS ISOLATOR>
<AUD ISOLATOR>
<VTR ISOLATOR>
<GUIDE ISOLATOR>
TMC8V
VDORA85
75Ω DRIVER
IC1200 NJM2235M
IC1201 NJM2246M
IC1202 NJM2235M
IC1204 TK15405BMI
IC1900 NJM2505F
IC1400
IC1501 NJM2060V
IC1850 M5237M
IC1821 M5237M
2 V→1 V
Bluetooth:2.21 dBs
DVD:2.21 dBs
IP:2.21 dBs
VTR: 2.21 dBs
FM:-13.5 dBs(U
-9.5 dBs(EW
AM:-24.0 dBs(U
-20.0 dBs(E
LPF
Rch MUTE
GUIDE L/R SW

*Bluetooth,DVD,IP:9.31 dBs
VTR:10.31 dBs
FM:3.60 dBs(UC),7.60 dBs(EW)
AM:-5.90 dBs(UC),-2.90 dBs(EW)

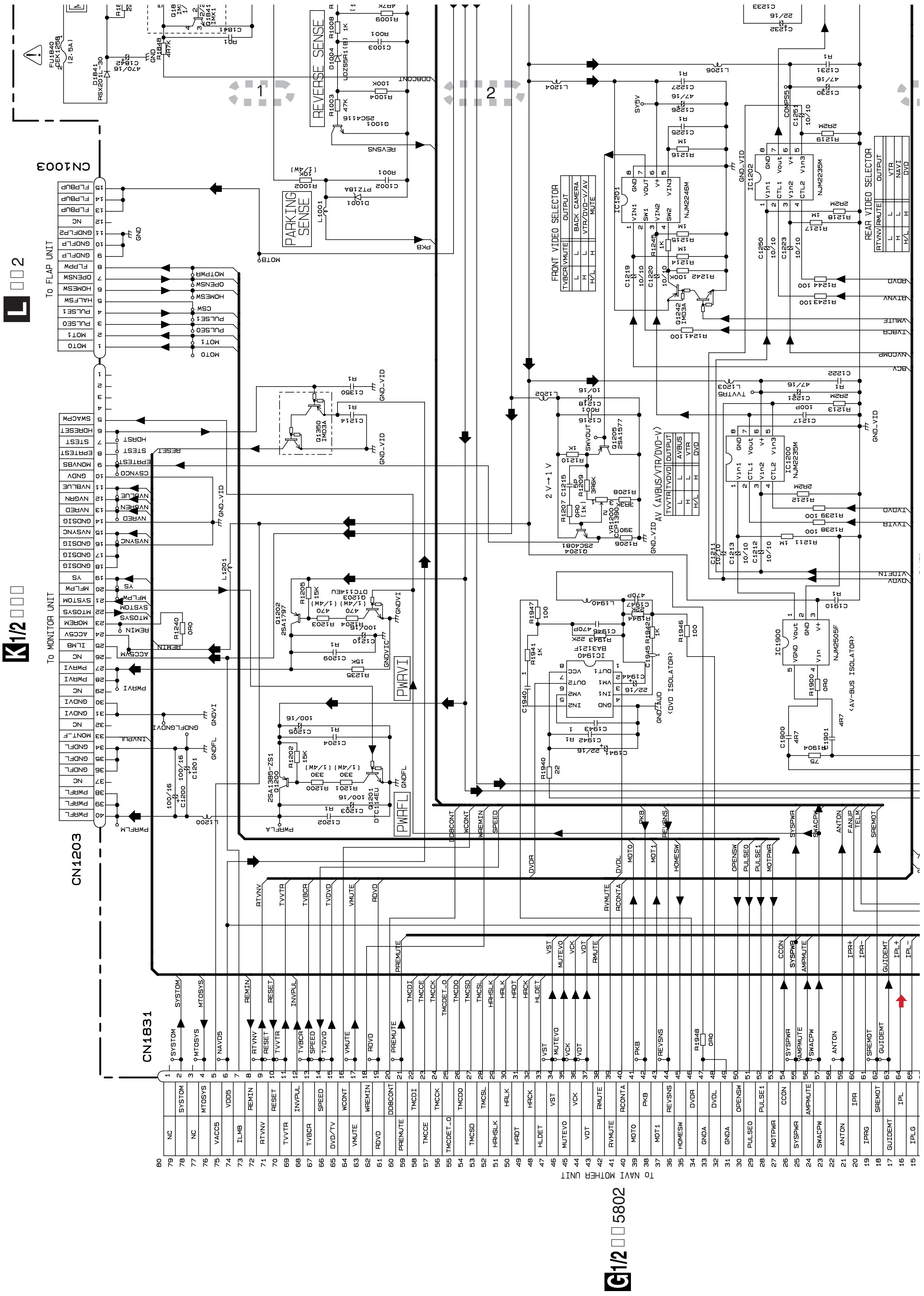
C1/2

C-b 1/2


G 1/2 CN5851
To NAVI MOTHER UNIT
CN1002
UC model
EW model
C 1/2 AUDIO UNIT(P/S¥I/F)
CN1001
CORD ASSY
Vehicle I/F
MS3 8V
TELM
ASENS
SPEED
ILM SENS
E SENSE
AUTO ANT
ACC5V
Bluetooth,DVD,IP :9. 31 dBs
VTR:10. 31 dBs
FM: 360 dBs(UC), 760 dBs(EW)
AM:-5. 30 dBs(UC),-2. 30 dBs(EW)
CN1201
CORD ASSY
VTR: 2. 21 dBs
(100 Vrms)
AV I/O
75Ω DRIVER
VIDEO ISOLATOR
BCV ISOLATOR
CN1202
CORD ASSY
Bluetooth:2. 21 dBs
DVD:2. 21 dBs
IP:2. 21 dBs
VTR: 2. 21 dBs
FM:-13.5 dBs(UC)
-9.5 dBs(EW)
AM:-24.0 dBs(UC)
-20.0 dBs(EW)
AUDIO 8V
GUIDE MIX
P/S CONECTOR 1000~
VIDEO 1200~
AUDIO 1400~
GUIDE 1600~
ANOTHER PWR 1800~
isolator 1900~
Bluetooth,DVD,IP:35. 31 dBs
VTR: 36. 31 dBs
FM: 2960 dBs(UC), 3360 dBs(EW)
AM:19.10 dBs(UC), 2300 dBs(EW)
IC1401 PAL007B
SW

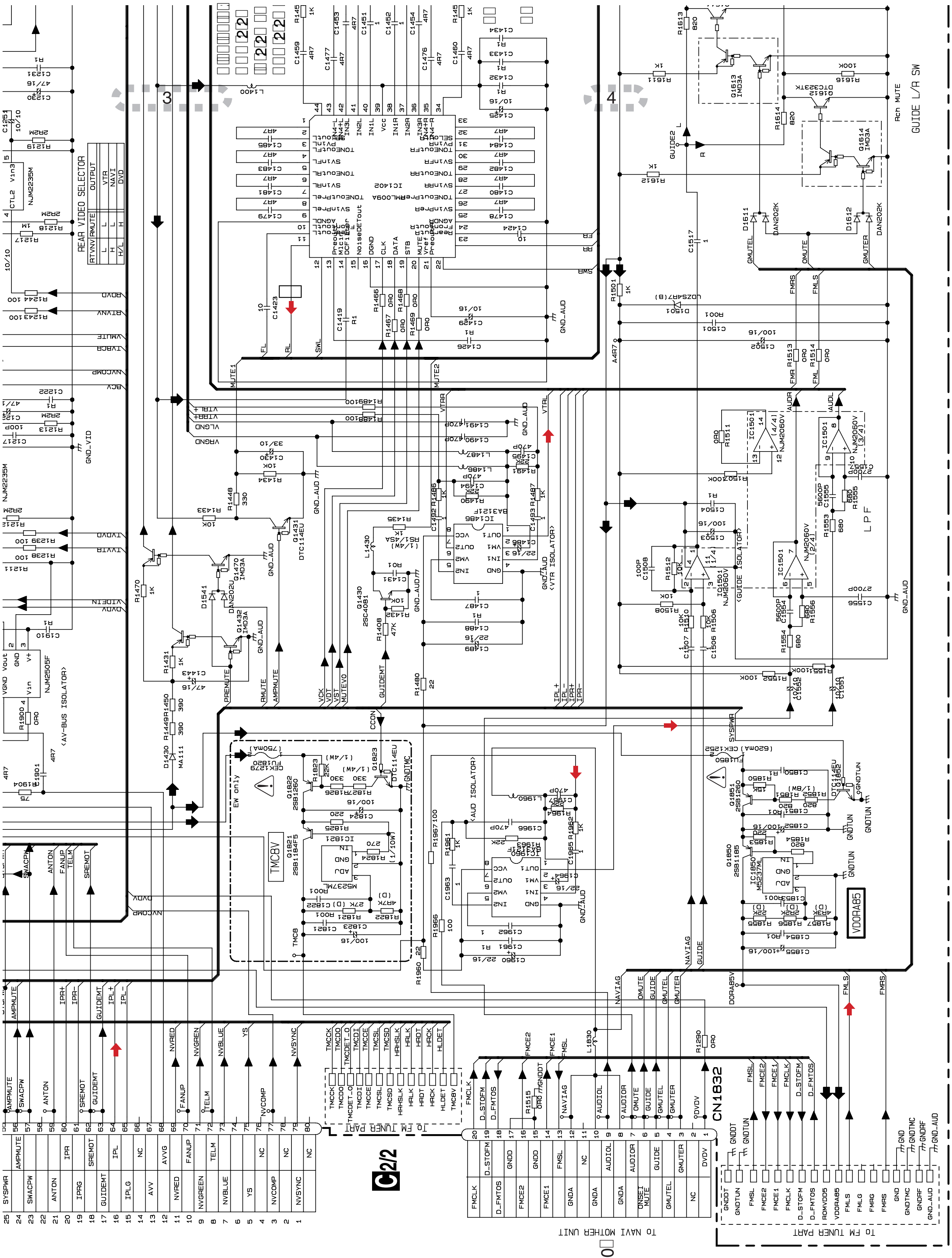
C 1/2

C-b 1/2


REVERSE SENSE
PARKING SENSE
CN1003
To FLAP UNIT
L 2
CN1203
To MONITOR UNIT
K 1/2
PWRVI
PWRFL
FRONT VIDEO SELECTOR
IC1201 NJM2246M
IC1202 NJM2235M
REAR VIDEO SELECTOR
IC1200 NJM2235M
AV (AVBUS/VTR/DVD-V)
2 V → 1 V
IC1940 BA3121F
<DVD ISOLATOR>
IC1900 NJM2505F
<AV-BUS ISOLATOR>
CN1831
To NAVI MOTHER UNIT
G 1/2 5802

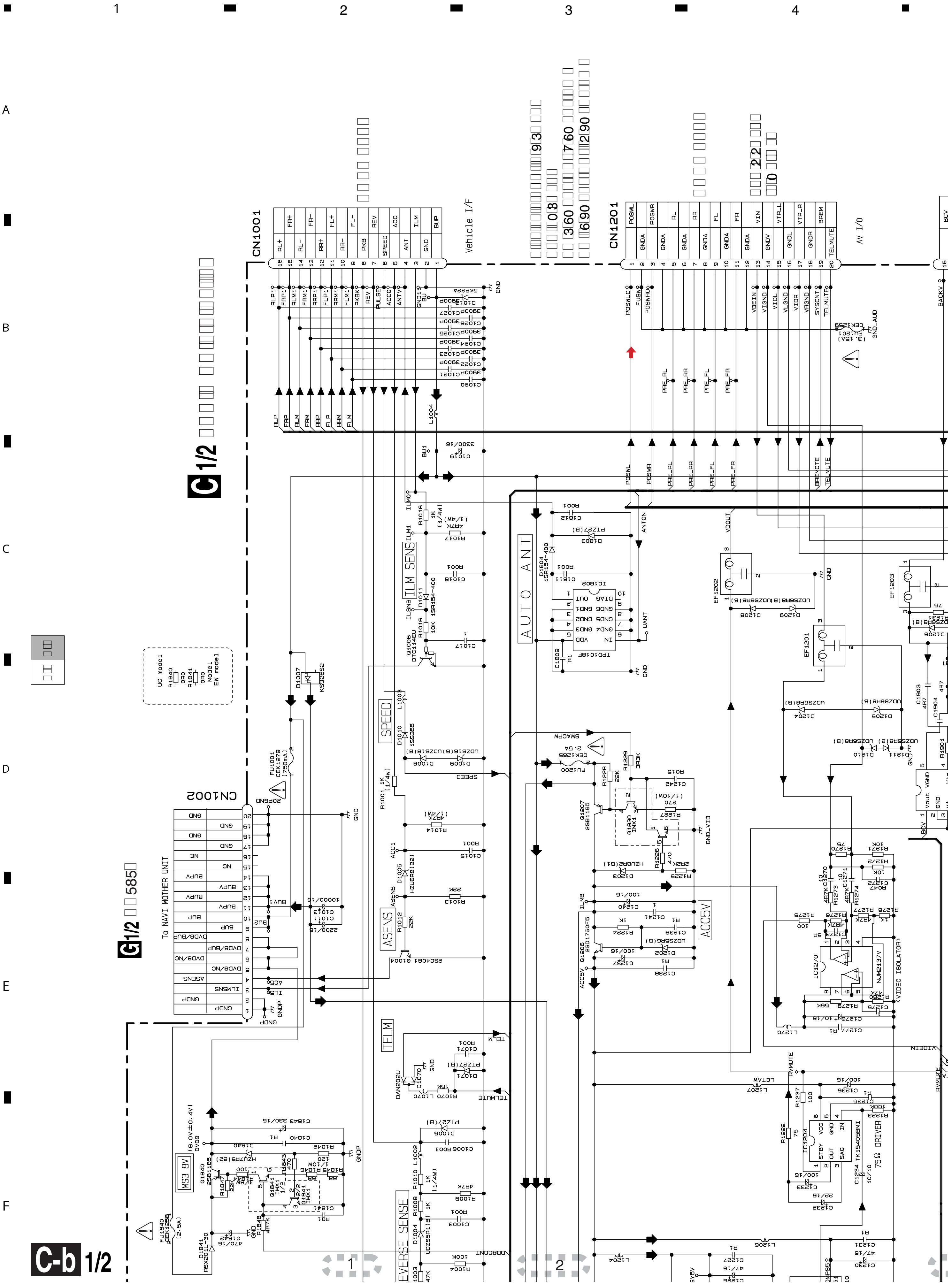
C-a 1/2

C-b 1/2


REAR VIDEO SELECTOR
RTVNV RMUTE OUTPUT
VTR
NAVI
DVD
NJM2235M
NJM2505F
<AV-BUS ISOLATOR>
IC1402
ICL1402
TONEoutRL
TONEoutFR
IC1486
BA3121F
<VTR ISOLATOR>
IC1960
BA3121F
<AUD ISOLATOR>
IC1821
MS237M
TMCBV
EW only
CEK1273
IC1501
NJM2060V
<GUIDE ISOLATOR>
LPF
IC1850
VDORAB5
CEK1252
GUIDE L/R SW
Rch MUTE
Q1613 IMD3A
Q1614 IMD3A
Q1612 DTC323TK
D1611 DAN202K
D1612 DAN202K
CN1832
To NAVI MOTHER UNIT
To FM TUNER PART
C 2/2
G 1/2
SYSPWR
AMPMUTE
GUIDEMT
NVRED
NVGREEN
NVBLUE
NVSYNC
NVCOMP
FMCLK
D_STOFM
D_FMTOS
AUDIOL
AUDIOR
GUIDE
GMUTEL
GMUTER
DVDV

C-a 1/2

C-b 1/2



CN1001
Vehicle I/F
CN1201
AV I/O
CN1002
To NAVI MOTHER UNIT
C 1/2
G 1/2
AUTO ANT
ILM SENS
SPEED
ASENS
TELM
REVERSE SENSE
ACC5V
IC1802 TPD1018F
IC1270 NJM2137V
<VIDEO ISOLATOR>
IC1204 TK15405BMI
75Ω DRIVER
EF1201
EF1202
EF1203
FU1001 CEK1279 (750mA)
FU1200 CEK1285 2.5A
FU1201 CEK1259 (3.15A)
FU1840 CEK1258 (2.5A)
MS3 8V
UC model R1840 0R0
R1841 0R0 Model EW model
L1004
L1002
D1007 KS926S2
Q1006 DTC114EU
Q1004 2SC4081
Q1207 2SB1185
Q1206 2SD1760F5
Q1830 IMX1
Q1840 2SB1185
Q1841 IMX1
D1841 RSX201L-30
POSWL
POSWR
PRE_RL
PRE_RR
PRE_FL
PRE_FR
ANTON
VDOUT
BREMOTE
TELMUTE
SWACPW
GND_VID
VIDEIN
RVMUTE
LCTAW
DVDB
1
2
3
4
A
B
C
D
E
F

A

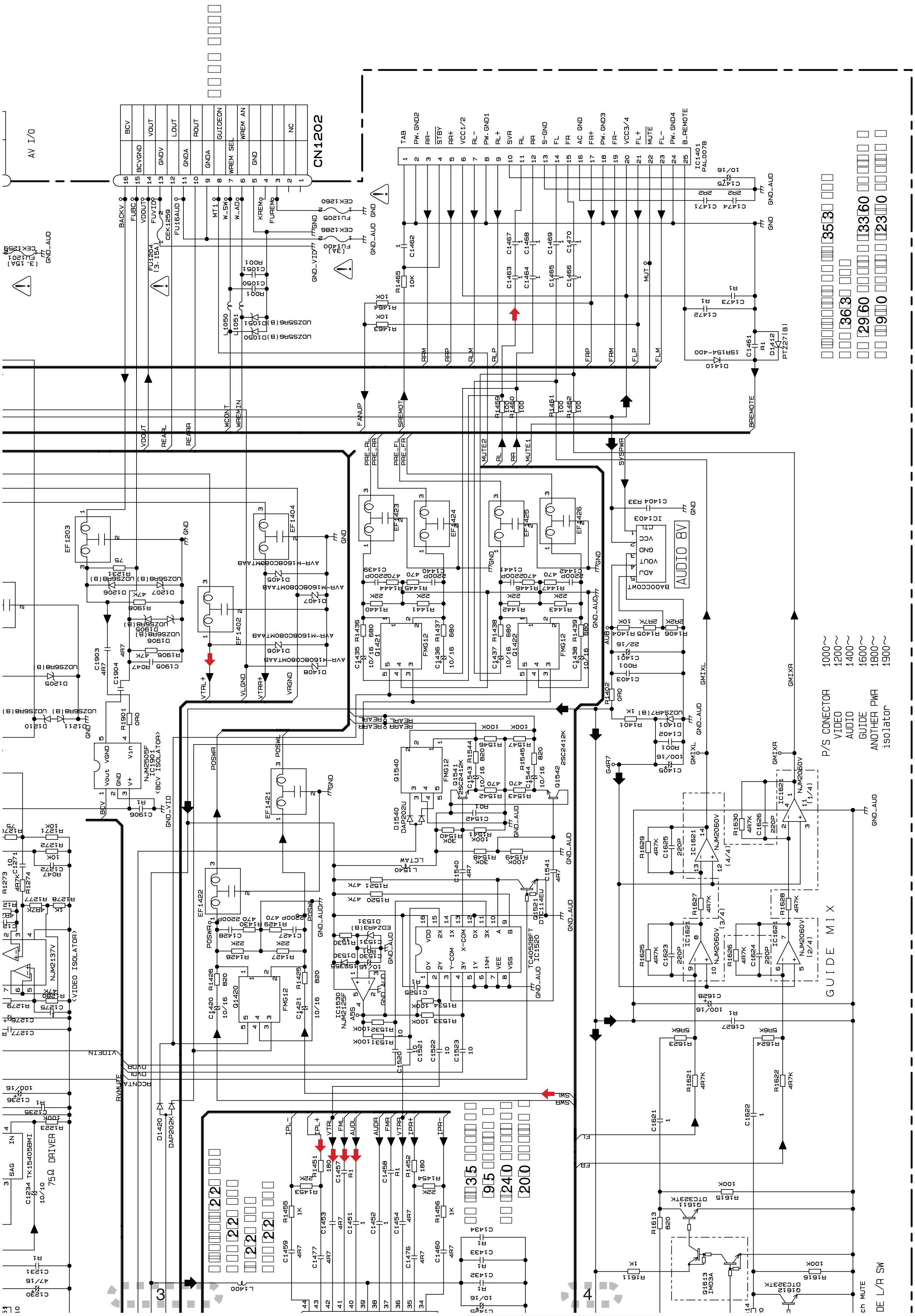
B

C

D

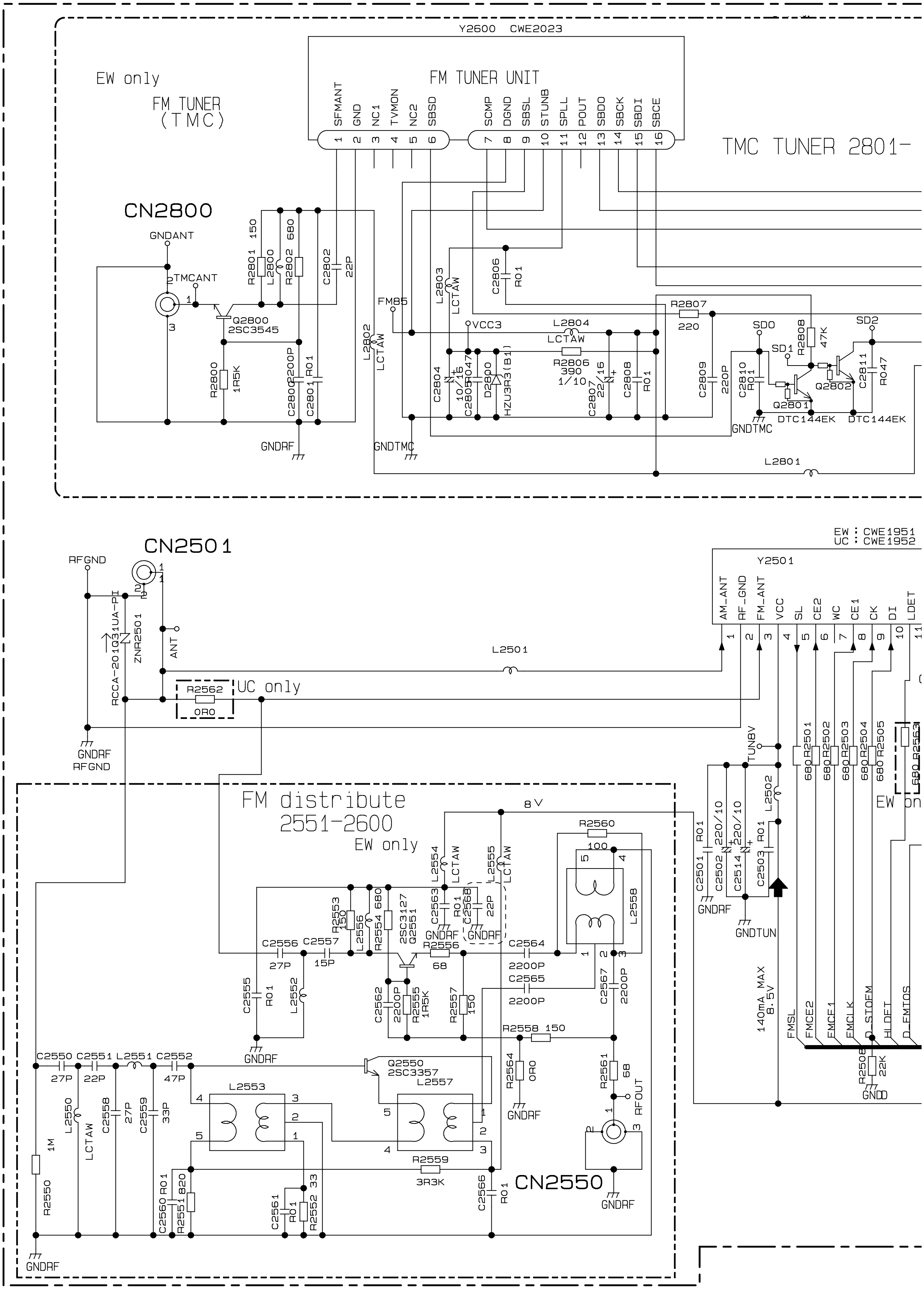
E

F


AV I/O
CN1202
BCV
BCVGND
VOUT
GNDV
LOUT
GNDA
ROUT
GUIDEON
WREM SEL
WREM AN
GND
NC
BACKV
FUBC
VDOUT
FUVID
FU16AUD
CEK1259
FU1204 (3.15A)
MT1
W_SW
W_AD
KREM
FUREM
CEK1260
FU1205
CEK1286
FU1400 (3A)
GND_VID
GND_AUD
GND
L1050
L1051
D1050 UDZS5R6(B)
D1051 UDZS5R6(B)
R001
C1050
C1051
IC1401 PAL007B
TAB
PW.GND2
RR-
STBY
RR+
VCC1/2
RL-
PW.GND1
RL+
SVR
RL
RR
S-GND
FL
FR
AC GND
FR+
PW.GND3
FR-
VCC3/4
FL+
MUTE
FL-
PW.GND4
B_REMOTE
C1462
R1465 10K
R1464 10K
R1463 10K
C1463
C1464
C1465
C1466
C1467
C1468
C1469
C1470
C1471 2R2
C1474 2R2
C1475 10/16
C1472
C1473
MUT
C1461
D1410 1SR154-400
D1412 PTZ27(B)
RRM
RRP
RLM
RLP
FRP
FRM
FLP
FLM
FANUP
SREMOT
BREMOTE
WCONT
WREMIN
VDOUT
REARL
REARR
PRE_RL
PRE_RR
PRE_FL
PRE_FR
MUTE2
RL
RR
MUTE1
SYSPWR
R1459 100
R1460 100
R1461 100
R1462 100
EF1203
EF1404
EF1402
EF1421
EF1422
EF1423
EF1424
EF1425
EF1426
AVR-M1608C080MTAAB
D1405
D1406
D1407
D1408
IC1403
BA00CC0WT
AUDIO 8V
CTL
VCC
GND
VOUT
ADJ
C1404
R33
R1404 10K
R1405 2R7K
R1406 2R2K
C1401 22/16
C1403
R001
R1402 0R0
R1401 1K
D1401 UDZS4R7(B)
C1402
C1405 100/16
AUB
GMIXL
GMIXR
G4R7
IC1901 NJM2505F
<BCV ISOLATOR>
Vout
VGND
Vin
GND
V+
BCV
R1901 0R0
C1903 4R7
C1904 4R7
C1905
C1906
R1906
D1205
D1206
D1207
D1210
D1211
UDZS6R8(B)
VTRL+
VLGND
VTRR+
VRGND
POSWR
Q1421 FMG12
Q1422 FMG12
Q1420 FMG12
Q1540 FMG12
Q1541 2SC2412K
Q1542 2SC2412K
D1540 DAP202U
L1540 LCTAW
IC1520 TC4052BFT
Q1521 DTC114EU
IC1530 NJM2125F
D1531 EDZ4R3(B)
IC1621 NJM2060V
IC1622 NJM2060V
GUIDE MIX
R1623 5R6K
R1624 5R6K
R1621 4R7K
R1622 4R7K
C1621
C1622
C1627
C1628 100/16
R1615 100K
R1616 100K
Q1611 DTC323TK
Q1612 DTC323TK
Q1613 IMD3A
R1611 1K
R1613 820
SMI
SMD
VIDEOIN
BVMUTE
RCONT
DVDL
DVDR
D1420 DAP202K
IPL-
IPL+
VTRL
FML
AUDL
AUDR
FMR
VTRR
IPR+
IPR-
R1451
R1452 180
R1453
R1454 22K
R1455 1K
R1456 1K
C1457
C1458
C1459 4R7
C1477 4R7
C1453 4R7
C1451
C1452
C1454 4R7
C1476 4R7
C1460 4R7
C1434
C1433
C1432 10/16
L1400
IC1234 TK15405BMI
75Ω DRIVER
SAG
IN
R1223 100K
C1235
C1236 100/16
NJM2137V
<VIDEO ISOLATOR>
C1230
C1231
P/S CONECTOR 1000~
VIDEO 1200~
AUDIO 1400~
GUIDE 1600~
ANOTHER PWR 1800~
isolator 1900~
ch MUTE
DE L/R SW
3
4

C-b 1/2

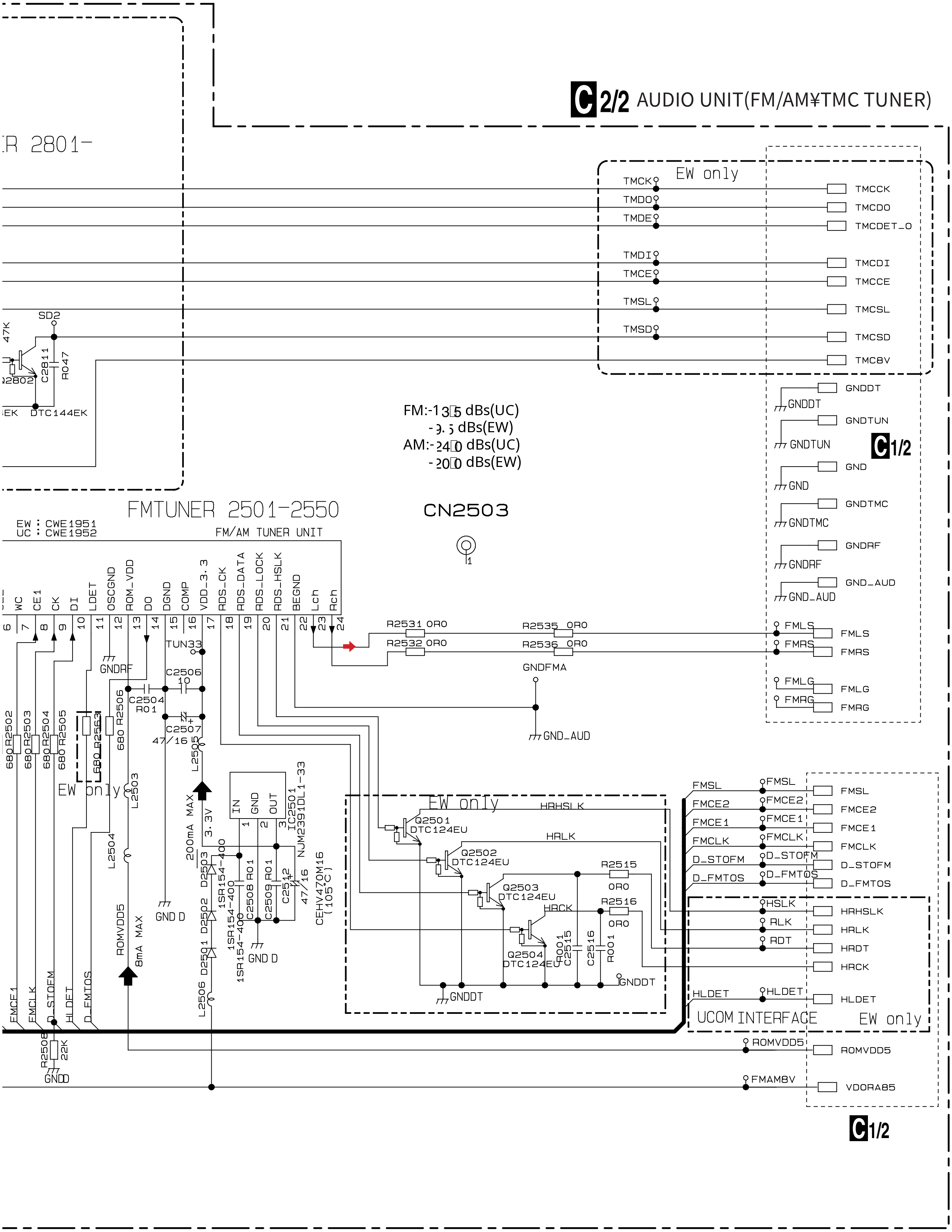
3.5 AUDIO UNIT(FM/AM•TMC TUNER)



Y2600 CWE2023
EW only
FM TUNER (TMC)
FM TUNER UNIT
SFMANT GND NC1 TVMON NC2 SBSD SCMP DGND SBSL STUNB SPLL POUT SBDO SBCK SBDI SBCE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
TMC TUNER 2801-
CN2800
GNDANT
TMCANT
Q2800 2SC3545
R2801 150
L2800
R2802 680
C2802 22P
R2800 1R5K
C2800 2200P
C2801 R01
GNDRF
FM85
L2802 LCTAW
L2803 LCTAW
C2806 R01
VCC3
L2804 LCTAW
R2806 390 1/10
C2804 10/16
C2805 R047
D2800 HZU3R3(B1)
C2807 22/16
C2808 R01
R2807 220
C2809 220P
C2810 R01
SD0 SD1 SD2
R2808 47K
Q2801 DTC144EK
Q2802 DTC144EK
C2811 R047
GNDTMC
L2801
CN2501
RFGND
RCCA-201Q31UA-PI
ZNR2501
ANT
L2501
R2562 0R0
UC only
GNDRF RFGND
EW : CWE1951
UC : CWE1952
Y2501
AM_ANT RF_GND FM_ANT VCC SL CE2 WC CE1 CK DI LDET
1 2 3 4 5 6 7 8 9 10 11
TUNBV
R2501 680
R2502 680
R2503 680
R2504 680
R2505 680
R2563 680
EW on
L2502
C2501 R01
C2502 220/10
C2514 220/10
C2503 R01
GNDRF
GNDTUN
140mA MAX 8.5V
FMSL FMCE2 FMCE1 FMCLK D_STOFM HLDET D_FMTOS
R2506 22K
GNDD
FM distribute 2551-2600
EW only
8V
L2554 LCTAW
L2555 LCTAW
R2560 100
L2558
R2553 150
L2556
R2554 680
2SC3127 Q2551
C2563 R01
C2568 22P
GNDRF
C2556 27P
C2557 15P
R2556 68
C2564 2200P
C2565 2200P
C2555 R01
L2552
C2562 2200P
R2555 1R5K
R2557 150
C2567 2200P
R2558 150
GNDRF
C2550 27P
C2551 22P
L2551
C2552 47P
Q2550 2SC3357
L2557
L2553
R2564 0R0
R2561 68
RFOUT
L2550 LCTAW
C2558 27P
C2559 33P
R2550 1M
C2560 R01
R2551 820
C2561 R01
R2552 33
R2559 3R3K
C2566 R01
CN2550
GNDRF

C 2/2

C 2/2 AUDIO UNIT(FM/AM¥TMC TUNER)



R 2801-
EW only
TMCK
TMDO
TMDE
TMDI
TMCE
TMSL
TMSD
TMCCK
TMCDO
TMCDET_O
TMCDI
TMCCE
TMCSL
TMCSD
TMC8V
SD2
47K
C2811
R047
Q2802
DTC144EK
GNDDT
GNDTUN
GND
GNDTMC
GNDRF
GND_AUD
C1/2
FMTUNER 2501-2550
EW : CWE1951
UC : CWE1952
FM/AM TUNER UNIT
CN2503
WC
CE1
CK
DI
LDET
OSCGND
ROM_VDD
DO
DGND
COMP
VDD_3.3
RDS_CK
RDS_DATA
RDS_LOCK
RDS_HSLK
BEGND
Lch
Rch
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
TUN33
GNDRF
C2506 10
C2504 R01
C2507 47/16
R2531 0R0
R2532 0R0
R2535 0R0
R2536 0R0
GNDFMA
FMLS
FMRS
FMLG
FMRG
680 R2502
680 R2503
680 R2504
680 R2505
680 R2563
680 R2506
L2505
L2503
L2504
200mA MAX
3.3V
IN GND OUT
1 2 3
IC2501
NJM2391DL1-33
D2503 1SR154-400
D2502 1SR154-400
D2501 1SR154-400
C2508 R01
C2509 R01
C2512 47/16
CEHV470M16 (105°C)
GND D
ROMVDD5
8mA MAX
L2506
Q2501 DTC124EU
Q2502 DTC124EU
Q2503 DTC124EU
Q2504 DTC124EU
HRHSLK
HRLK
HRCK
R2515 0R0
R2516 0R0
R001
C2515
C2516
R001
GNDDT
FMSL
FMCE2
FMCE1
FMCLK
D_STOFM
D_FMTOS
HSLK
RLK
RDT
HRHSLK
HRLK
HRDT
HRCK
HLDET
UCOM INTERFACE
EW only
ROMVDD5
FMAM8V
VDORA85
FMCE1
FMCLK
D_STOFM
HLDET
D_FMTOS
R2508 22K
GND D
C1/2

FM:-13.5 dBs(UC)
-9.5 dBs(EW)
AM:-24.0 dBs(UC)
-20.0 dBs(EW)

C 2/2

3.6 DVD CORE UNIT(MS3)(SO-DC)(GUIDE PAGE)

A

D-a 1/2

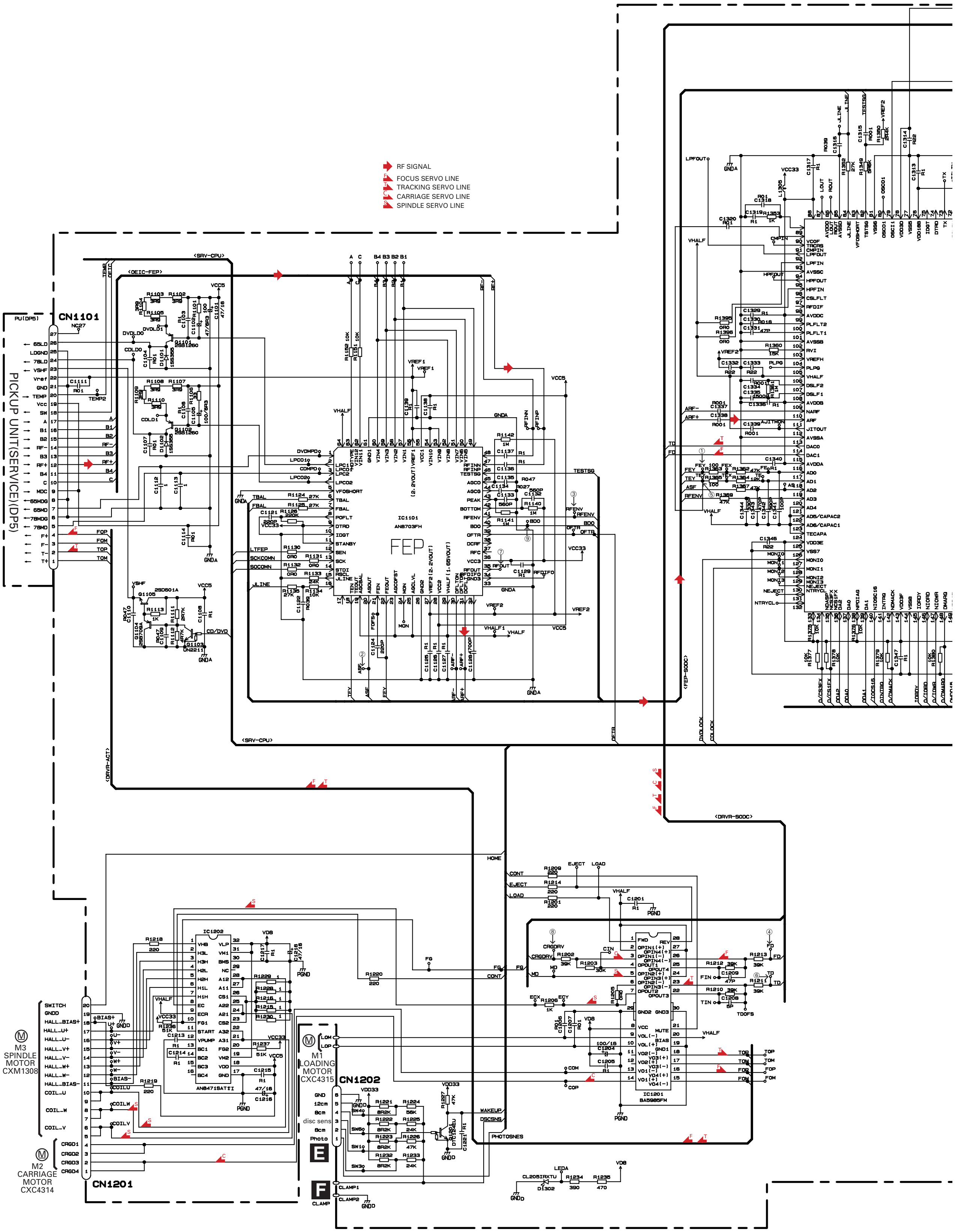
B

C

D

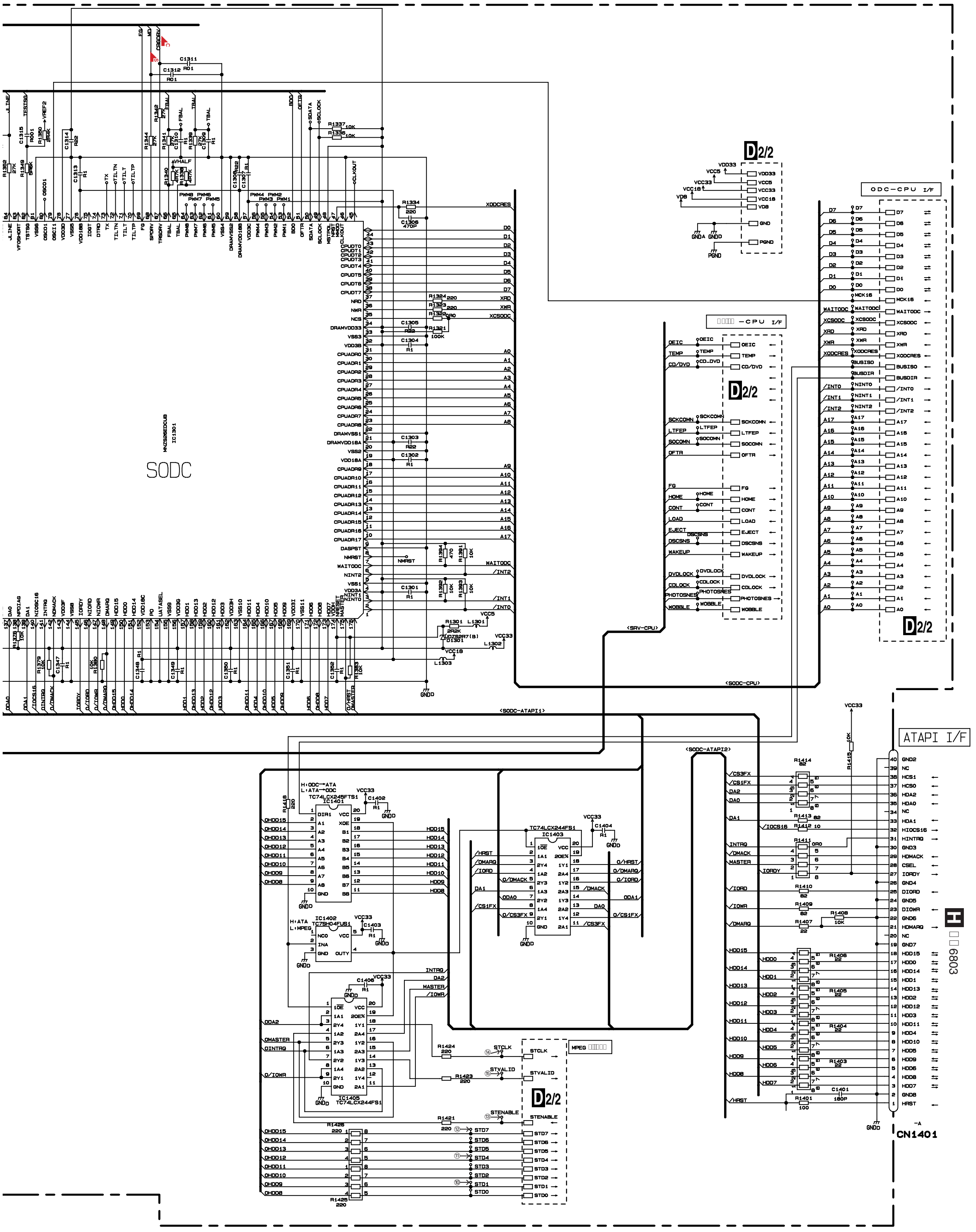
E

F


RF SIGNAL
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
PICKUP UNIT(SERVICE)(DP5)
PU(DP5)
CN1101
<SRV-CPU>
<OEIC-FEP>
<FEP-SODC>
<DRVR-ACT>
<DRVR-SODC>
IC1101
AN8703FH
FEP
Q1101
2SB1260
Q1102
2SB1260
Q1105
2SD601A
Q1103
UN5211
Q1104
2SD601A
VCC5
VCC33
VHALF
VREF1
VREF2
GNDA
TESTSG
LPFOUT
HPFOUT
M3
SPINDLE
MOTOR
CXM1308
M2
CARRIAGE
MOTOR
CXC4314
M1
LOADING
MOTOR
CXC4315
CN1201
CN1202
IC1202
AN8471SA
IC1201
BA5985FM
E
F
CLAMP
D1302
CL205IRXTU
HOME
CONT
EJECT
LOAD
WAKEUP
DSCSNS
PHOTOSNS
12cm
8cm
disc sens
Photo
CLAMP1
CLAMP2

D-b 1/2

D1/2 DVD CORE UNIT(MS3)(SO-DC)


SODC
IC1301
MN2DS0EDCUB
D2/2
ODC–CPU I/F
–CPU I/F
MPEG
ATAPI I/F
H
6803
CN1401
IC1401
TC74LCX245FTS1
H:ODC→ATA
L:ATA→ODC
IC1402
TC7SH04FUS1
H:ATA
L:MPEG
IC1403
TC74LCX244FS1
IC1405
TC74LCX244FS1
<SODC-CPU>
<SRV-CPU>
<SODC-ATAPI1>
<SODC-ATAPI2>
VCC33
VCC5
VCC18
VDD33
GNDD
GNDA
PGND
XODCRES
WAITODC
XCSODC
XRD
XWR
/INT0
/INT1
/INT2
A0
A17
D0
D7
HDD0
HDD15
/HRST
/DMARQ
/IORD
/IOWR
/DMACK
/CS1FX
/CS3FX
INTRQ
MASTER
DA0
DA1
DA2
STCLK
STVALID
STENABLE
STD0
STD7
OEIC
TEMP
CD/DVD
SCKCOMN
LTFEP
SOCOMN
OFTR
FG
HOME
CONT
LOAD
EJECT
DSCSNS
WAKEUP
DVDLOCK
CDLOCK
PHOTOSNES
WOBBLE
GND2
NC
HCS1
HCS0
HDA2
HDA0
HDA1
HIOCS16
HINTRQ
HDMACK
CSEL
IORDY
DIORD
DIOWR
HDMARQ
HRST

D1/2

A

D-b 1/2

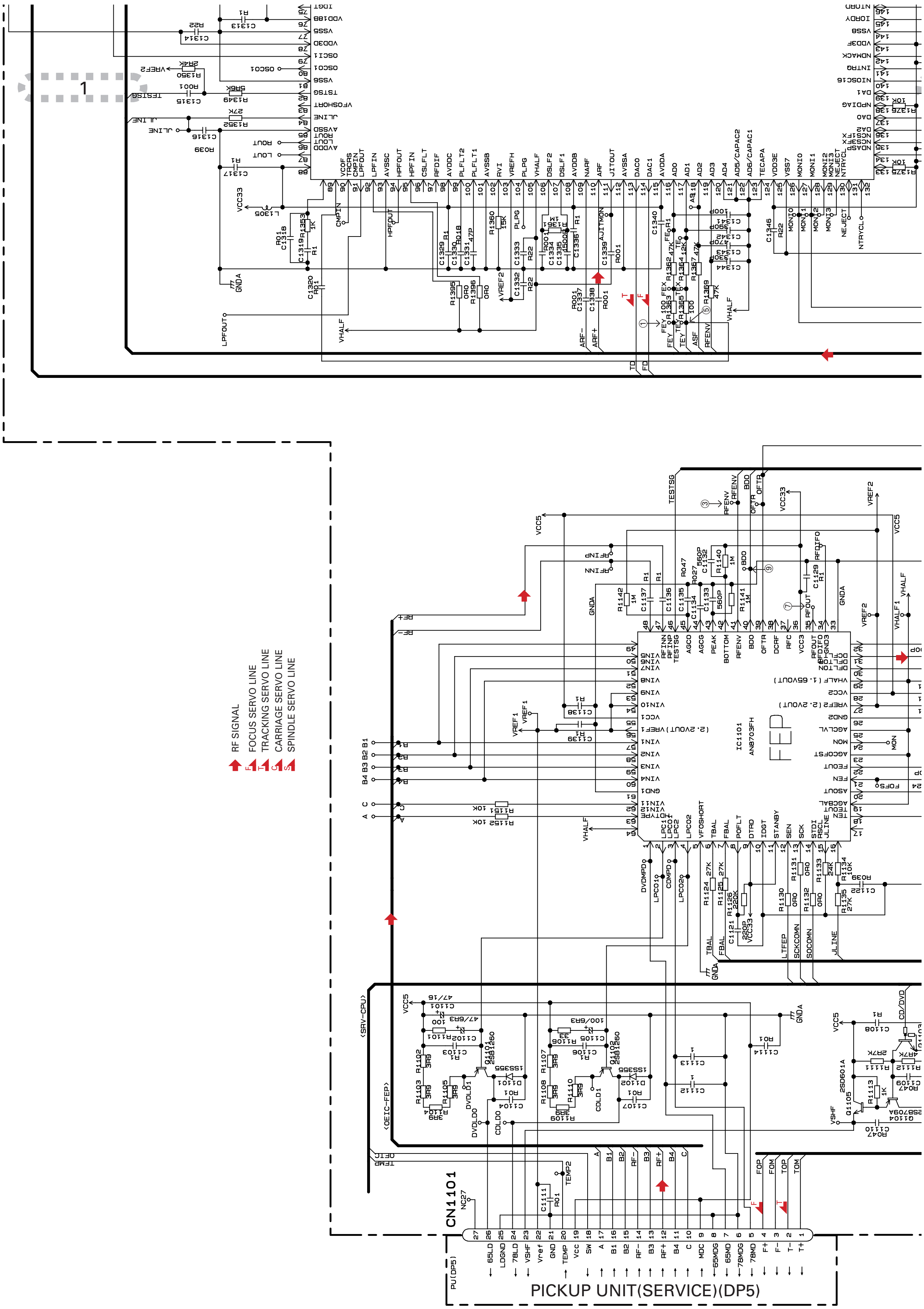
B

C

D

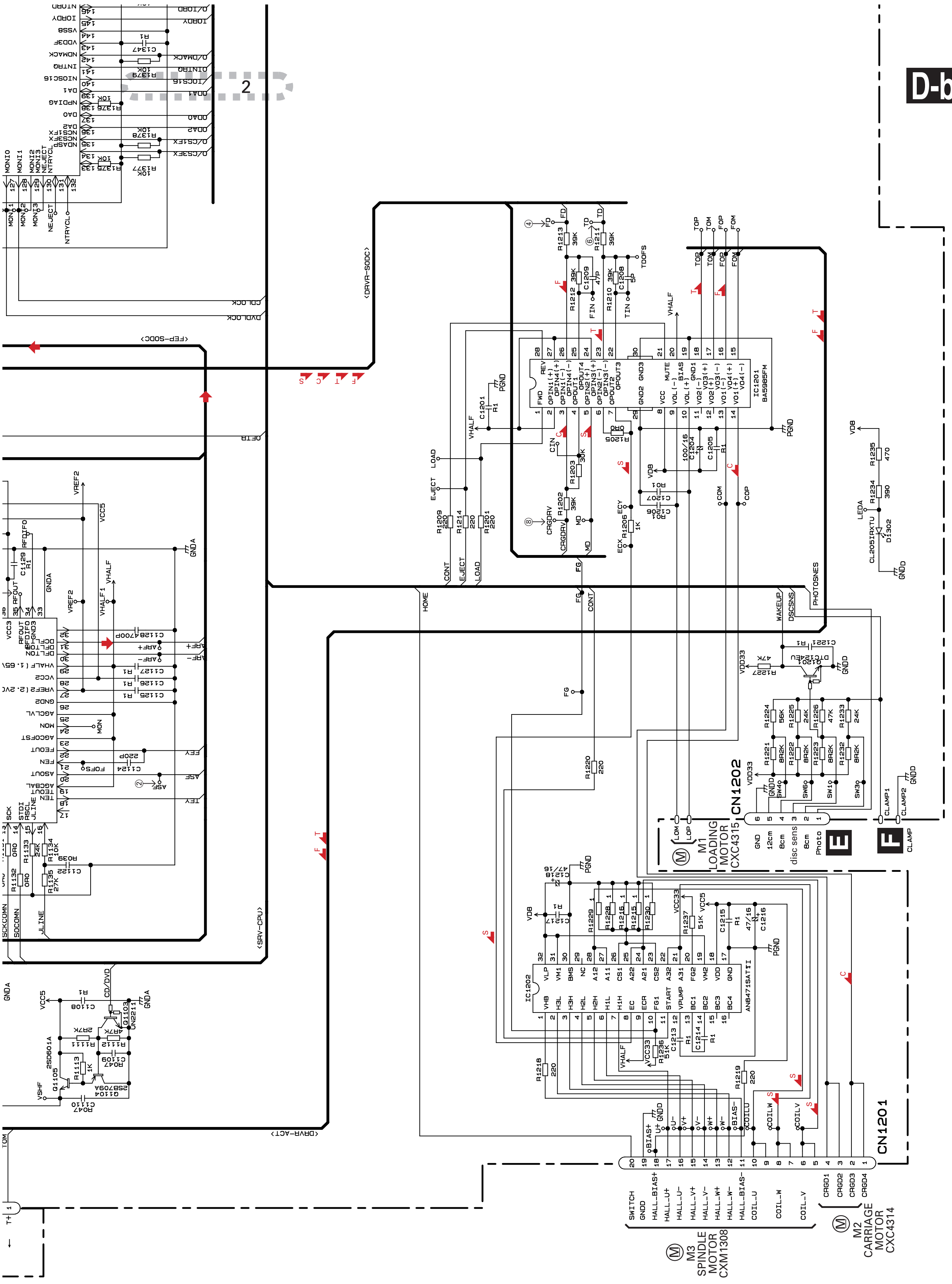
E

F


1
IC1101
AN8703FH
FEP
CN1101
PU(DP5)
PICKUP UNIT(SERVICE)(DP5)
65LD
LDGND
78LD
VSHF
Vref
GND
TEMP
Vcc
SW
A
B1
B2
RF-
B3
RF+
B4
C
MDC
65MDG
65MD
78MDG
78MD
F+
F-
T-
T+
Q1101 2SB1260
Q1102 2SB1260
D1101 1SS355
D1102 1SS355
Q1105 2SD601A
Q1104 2SB709A
<SRV-CPU>
<DEIC-FEP>
VCC5
VCC33
VHALF
GNDA
RF SIGNAL
F FOCUS SERVO LINE
T TRACKING SERVO LINE
S SPINDLE SERVO LINE

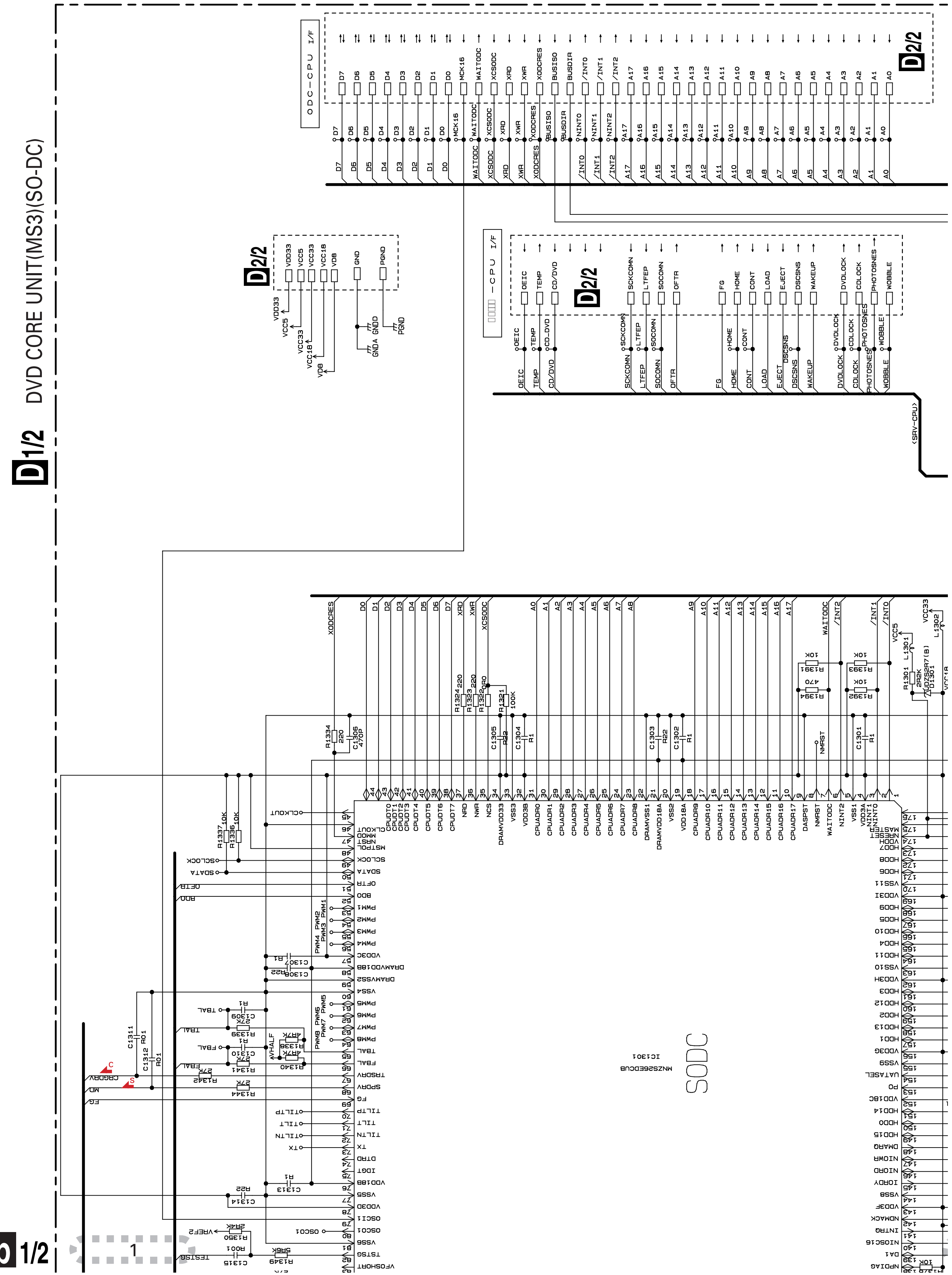
D-a 1/2

D-b 1/2

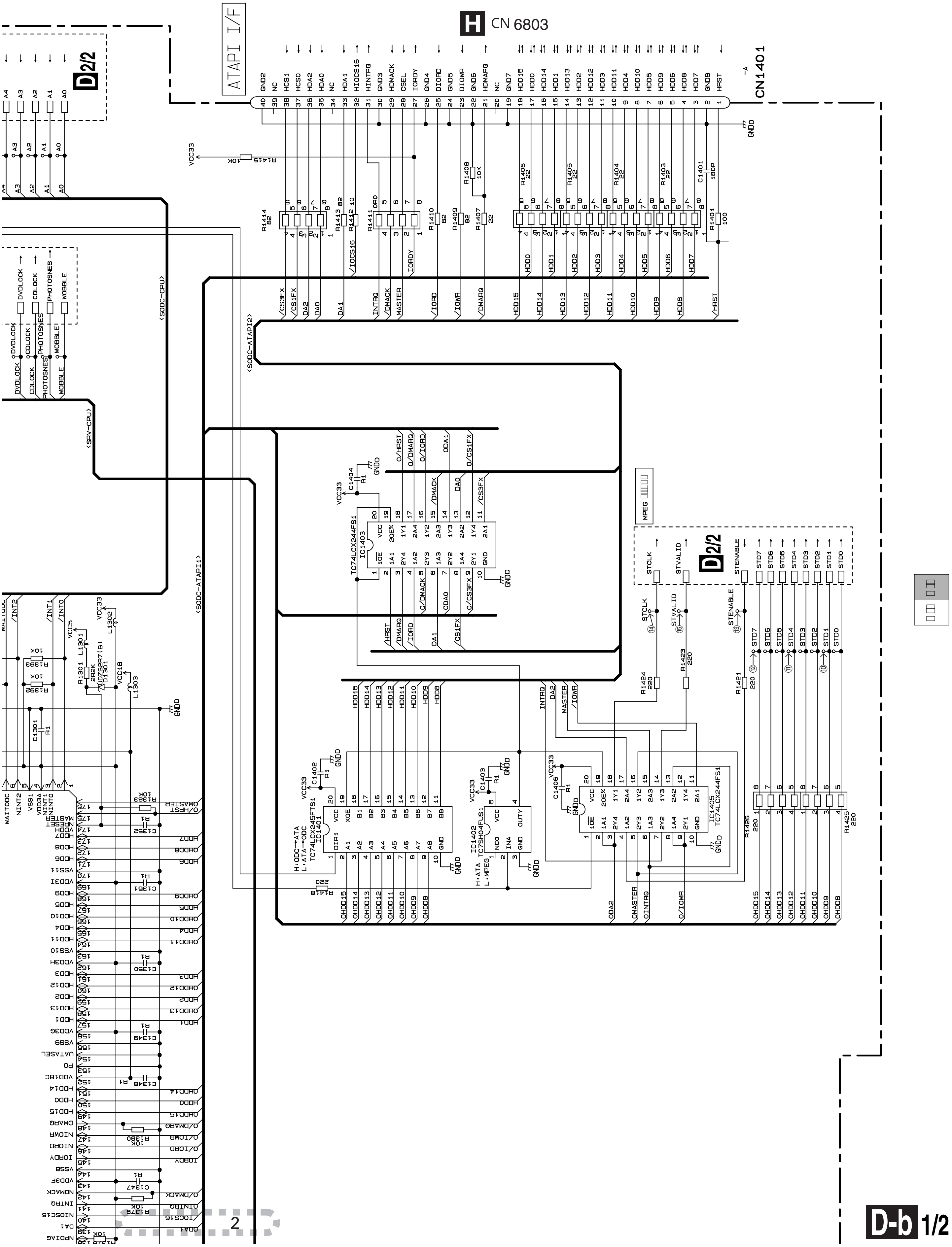

IC1201
BA5985FM
IC1202
AN8471SATII
CN1202
CN1201
M1
LOADING
MOTOR
CXC4315
M2
CARRIAGE
MOTOR
CXC4314
M3
SPINDLE
MOTOR
CXM1308
E
F
GND
12cm
8cm
disc sens
8cm
Photo
CLAMP
CLAMP1
CLAMP2
LOM
LOP
SWITCH
GNDD
HALL_BIAS+
HALL_U+
HALL_U-
HALL_V+
HALL_V-
HALL_W+
HALL_W-
HALL_BIAS-
COIL_U
COIL_W
COIL_V
CRGD1
CRGD2
CRGD3
CRGD4
TOP
TOM
FOP
FOM
TDOFS
VHALF
VDD33
VDD3
VCC5
VCC3
PGND
GNDA
GNDD
CONT
EJECT
LOAD
HOME
FG
MD
CRGDRV
ECY
ECX
COM
COP
FD
TD
FIN
TIN
CIN
WAKEUP
DSCSNS
PHOTOSNES
LEDA
D1302
CL205IRXTU
Q1201
DTC124EU
Q1103
UN2211
Q1104
2SB709A
Q1105
2SD601A
VSHF
CD/DVD
<DRVR-SODC>
<FEP-SODC>
<SRV-CPU>
<DRVR-ACT>
R1213 39K
R1211 39K
R1212 39K
R1210 39K
C1209 47P
C1208 5P
R1203 30K
R1202 39K
R1206 1K
R1205 0R0
C1204 100/16
C1205 R1
C1201 R1
R1209 220
R1214 220
R1201 220
R1220 220
R1218 220
R1219 220
R1235 470
R1234 390
R1227 47K
R1224 56K
R1225 24K
R1226 47K
R1233 24K
R1221 8R2K
R1222 8R2K
R1223 8R2K
R1232 8R2K
R1237 51K
R1236 51K
C1215 R1
C1216 47/16
C1218 47/16
C1217 R1
C1213 R1
C1214 R1
R1229 1
R1228 1
R1216 1
R1215 1
R1230 1
R1375 10K
R1376 10K
R1377 10K
R1378 10K
R1379 10K
C1347 R1
C1129 R1
C1128 4700P
C1127 R1
C1126 R1
C1125 R1
C1124 220P
C1122 R039
R1132 0R0
R1133 24K
R1134 10K
R1135 27K
R1111 2R7K
R1112 4R7K
R1113 1K
C1108 R1
C1109 R047
C1110 R047
2

D-a 1/2

D1/2 DVD CORE UNIT(MS3)(SO-DC)

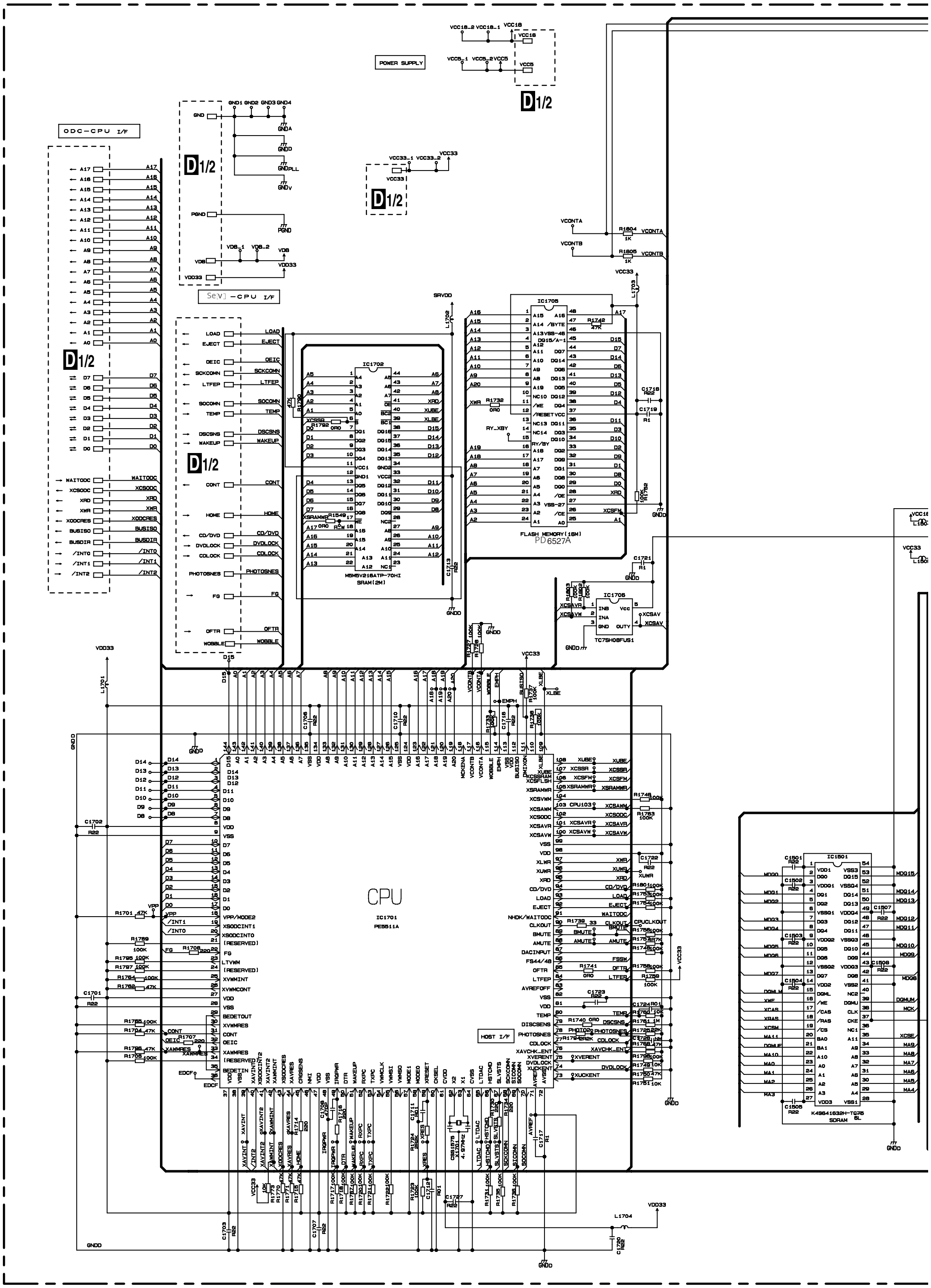


ODC−CPU I/F
D2/2
D7 D6 D5 D4 D3 D2 D1 D0 MCK16 WAITODC XCSODC XRD XWR XODCRES BUSISO BUSDIR /INT0 /INT1 /INT2 A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
VDD33 VCC5 VCC33 VCC18 VD8 GND PGND
GNDA GNDD
−CPU I/F
OEIC TEMP CD/DVD SCKCOMN LTFEP SOCOMN OFTR FG HOME CONT LOAD EJECT DSCSNS WAKEUP DVDLOCK CDLOCK PHOTOSNES WOBBLE
(SRV−CPU)
XODCRES
VCC5
VCC33
L1302
L1301
R1301 2R2K
D1301 UDZS2R7(B)
R1391 10K
R1393 10K
R1394 470
R1392 10K
NMRST
C1301 R1
C1302 R1
C1303 R22
C1304 R1
C1305 R22
C1306 470P
R1334 220
R1324 220
R1323 220
R1322 0R0
R1321 100K
R1337 10K
R1336 10K
CLKOUT
SCLOCK
SDATA
OFTR
BDO
C1307 R1
C1308 R22
TBAL
FBAL
C1309 R1
R1339 27K
C1310 R1
R1341 27K
R1338 4R7K
R1340 4R7K
VHALF
R1342 27K
R1344 27K
C1311
C1312 R01
CRDDRV
MD
FG
C
S
TILTP
TILT
TILTN
TX
C1313 R1
C1314 R22
OSCO1
VREF2
R1350 2R4K
R001
C1315
TESTSG
R1349 5R6K
SODC
IC1301
MN2S266DCUB
CPUDT0 CPUDT1 CPUDT2 CPUDT3 CPUDT4 CPUDT5 CPUDT6 CPUDT7 NRD NWR NCS DRAMVDD33 VSS3 VDD3B CPUADR0 CPUADR1 CPUADR2 CPUADR3 CPUADR4 CPUADR5 CPUADR6 CPUADR7 CPUADR8 DRAMVSS1 DRAMVDD18A VSS2 VDD18A CPUADR9 CPUADR10 CPUADR11 CPUADR12 CPUADR13 CPUADR14 CPUADR15 CPUADR16 CPUADR17 DASPST NMRST WAITODC NINT2 VSS1 VDD3A NINT0 NINT1
CLKOUT MMOD NRST MSTPOL SCLOCK SDATA OFTR BDO PWM1 PWM2 PWM3 PWM4 VDD3C DRAMVDD18B DRAMVSS2 VSS4 PWM5 PWM6 PWM7 PWM8 TBAL FBAL TRSDRV SPDRV FG TILTP TILT TILTN TX DTRD IDGT VDD18B VSS5 VDD3D OSCI1 OSCO1 VSS6 TSTSG VFOSHORT
MASTER NRESET VDDH HDD7 HDD8 HDD6 VSS11 VDD3I HDD9 HDD5 HDD10 HDD4 HDD11 VSS10 VDD3H HDD3 HDD12 HDD2 HDD13 HDD1 VDD3G VSS9 UATASEL PO VDD18C HDD14 HDD0 HDD15 DMARQ NIOWR NIORD IORDY VSS8 VDD3F NDMACK INTRQ NIOCS16 DA1 NPDIAG
1 2 3 4
A B C D E F


ATAPI I/F
H CN 6803
CN1401
D2/2
GND2
NC
HCS1
HCS0
HDA2
HDA0
HDA1
HIOCS16
HINTRQ
GND3
HDMACK
CSEL
IORDY
GND4
DIORD
GND5
DIOWR
GND6
HDMARQ
GND7
HDD15
HDD0
HDD14
HDD1
HDD13
HDD2
HDD12
HDD3
HDD11
HDD4
HDD10
HDD5
HDD9
HDD6
HDD8
HDD7
GND8
HRST
GNDD
VCC33
R1415 10K
R1414 82
R1413 82
R1412 10
R1411 0R0
R1410 82
R1409 82
R1408 10K
R1407 22
R1406 22
R1405 22
R1404 22
R1403 22
R1401 100
C1401 180P
<SODC-CPU>
<SODC-ATAPI2>
<SODC-ATAPI1>
<SRV-CPU>
DVDLOCK
CDLOCK
PHOTOSNES
WOBBLE
A4
A3
A2
A1
A0
/CS3FX
/CS1FX
DA2
DA0
DA1
INTRQ
/DMACK
MASTER
/IORD
/IOWR
/DMARQ
/IOCS16
IORDY
/HRST
IC1403 TC74LCX244FS1
C1404 R1
O/HRST
O/DMARQ
O/IORD
ODA1
O/CS1FX
O/DMACK
ODA0
O/CS3FX
MPEG
STCLK
STVALID
STENABLE
STD7
STD6
STD5
STD4
STD3
STD2
STD1
STD0
R1424 220
R1423 220
R1421 220
R1426 220
R1425 220
IC1401 TC74LCX245FTS1
H:ODC→ATA
L:ATA→ODC
C1402 R1
IC1402 TC7SH04FUS1
H:ATA
L:MPEG
C1403 R1
IC1405 TC74LCX244FS1
C1406 R1
R1418 220
OHDD15
OHDD14
OHDD13
OHDD12
OHDD11
OHDD10
OHDD9
OHDD8
ODA2
OMASTER
OINTRQ
O/IOWR
VCC5
VCC18
L1301
L1302
L1303
R1301 2R2K
D1301 UDZS2R7(B)
R1393 10K
R1392 10K
C1301 R1
WAITODC
NINT2
VSS1
VDD3A
NINT1
NINTO
/INT2
/INT1
/INT0
R1383 10K
DMASTER
O/HRST
C1352
C1351
C1350
C1349
C1348
C1347
R1380 10K
R1379 10K
R1378 10K
XRESET
MASTER
VDD3H
HDD7
HDD8
HDD6
VSS11
VDD3I
HDD9
HDD5
HDD10
HDD4
HDD11
VSS10
VDD3H
HDD3
HDD12
HDD2
HDD13
HDD1
VDD3G
VSS9
UATASEL
PO
VDD18C
HDD14
HDD0
HDD15
DMARQ
NIOWR
NIORD
IORDY
VSS8
VDD3F
NDMACK
INTRQ
NIOCS16
DA1
NDIAG
O/DMARQ
O/IOWR
O/IORD
O/DMACK
OINTRQ
/IOCS16
2

3.7 DVD CORE UNIT(MS3)(CPU)(GUIDE PAGE)

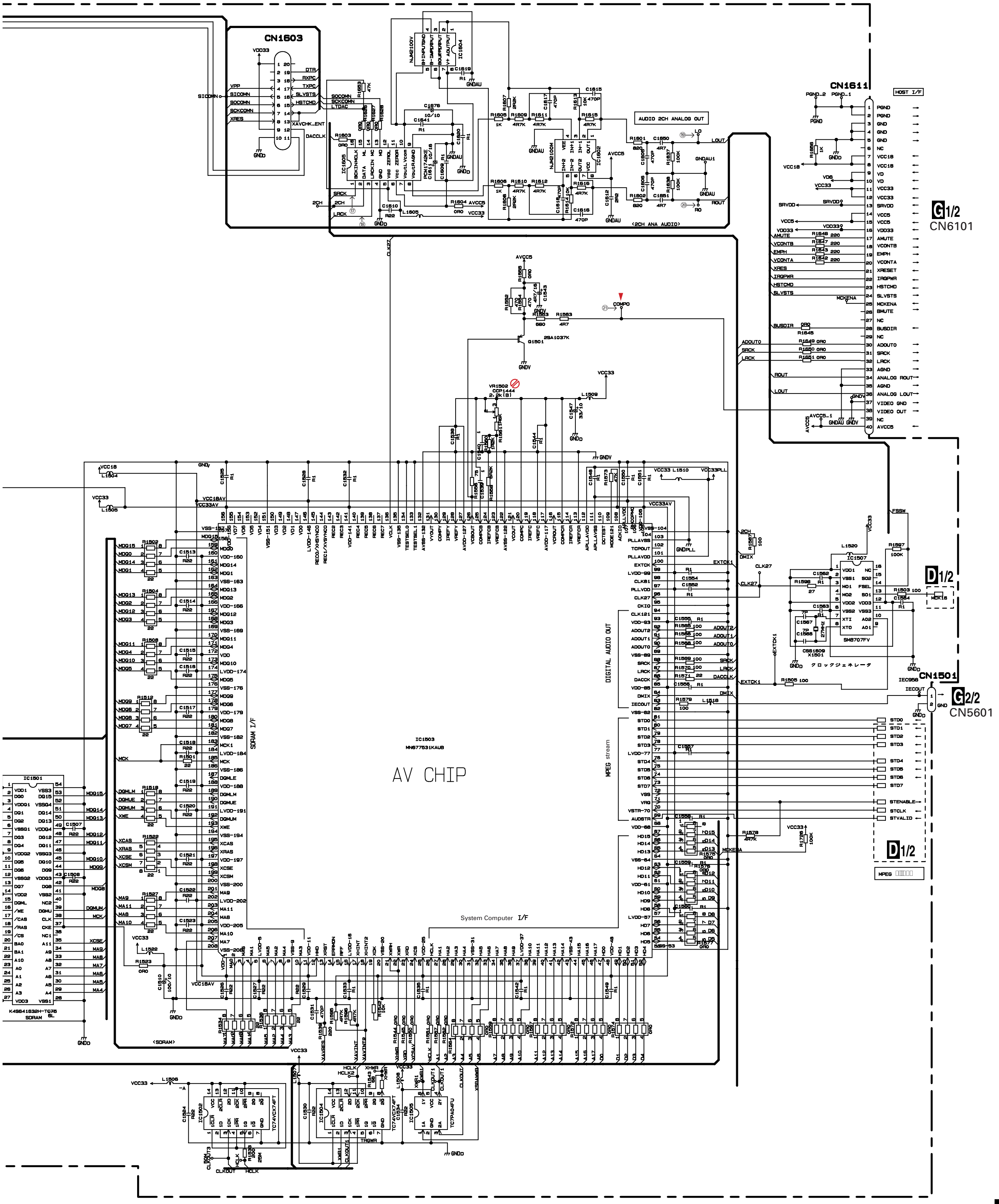
D-a 2/2


POWER SUPPLY
VCC18
VCC5
D1/2
ODC-CPU I/F
Servo-CPU I/F
IC1702
MSM5V216ATP-70HI
SRAM(2M)
IC1705
FLASH MEMORY(16M)
PD6527A
IC1706
TC7SH08FUS1
CPU
IC1701
PE5511A
HOST I/F
IC1501
K4S641632H-TC75
SDRAM
L1701
L1703
L1704
VDD33
VCC33
GNDD

D2/2

D-b 2/2

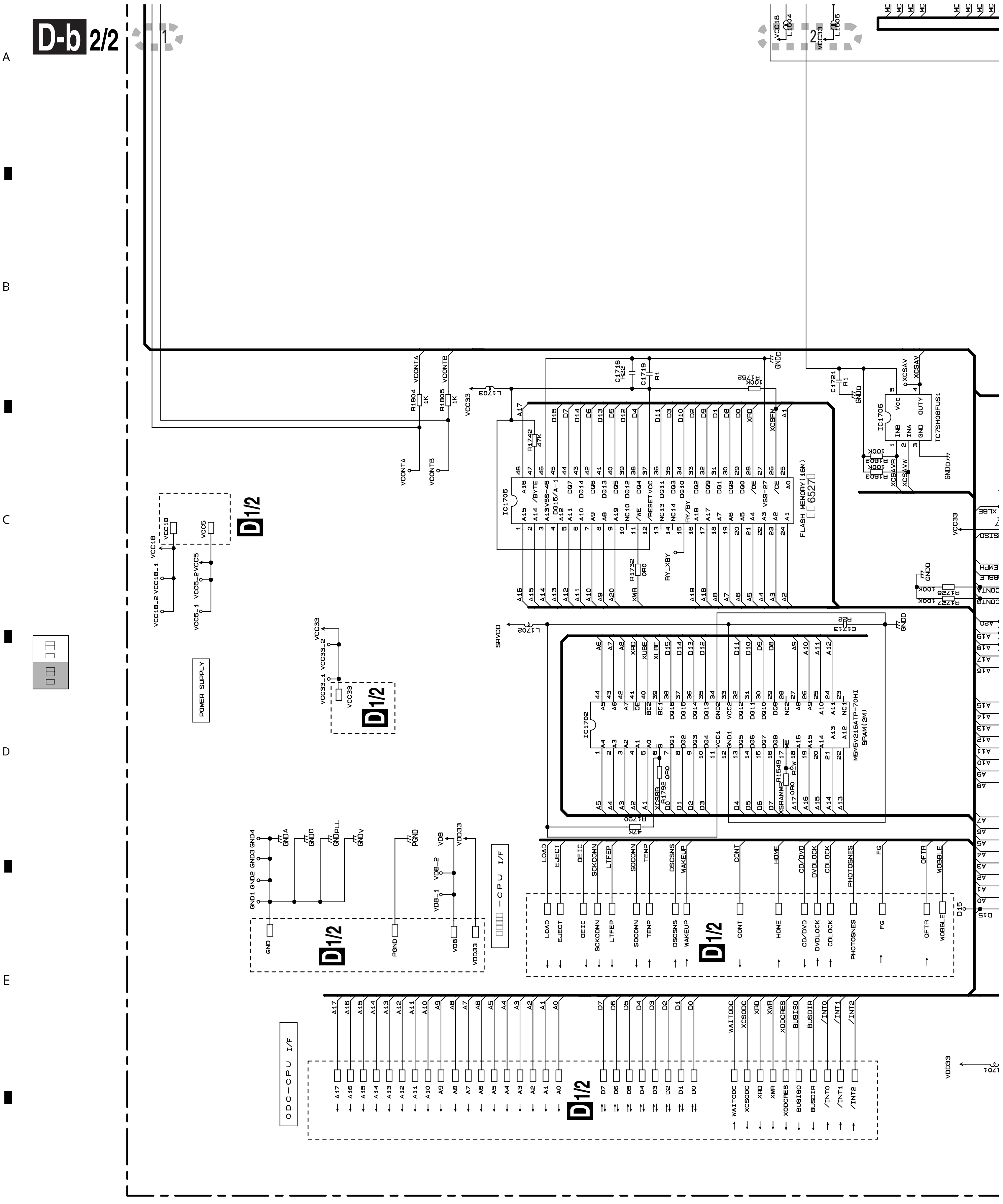
D 2/2 DVD CORE UNIT (MS3)(CPU)



CN1603
CN1611
HOST I/F
AUDIO 2CH ANALOG OUT
IC1504
NJM2100V
IC1505
PCM1742KE
IC1502
NJM2100M
<2CH ANA AUDIO>
G1/2
CN6101
AVCC5
COMPO
Q1501
2SA1037K
VR1502
CCP1444
L1509
VCC33
GNDV
IC1507
SM8707FV
D1/2
クロックジェネレータ
CN1501
G2/2
CN5601
IC1503
MN677531KAUB
AV CHIP
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
D1/2
MPEG
IC1501
K4S641632H-TC75
SDRAM
<SDRAM>
IC1502
TC74VCX74FT
IC1504
TC74VCX74FT
IC1505
TC7PA04FU
GNDD

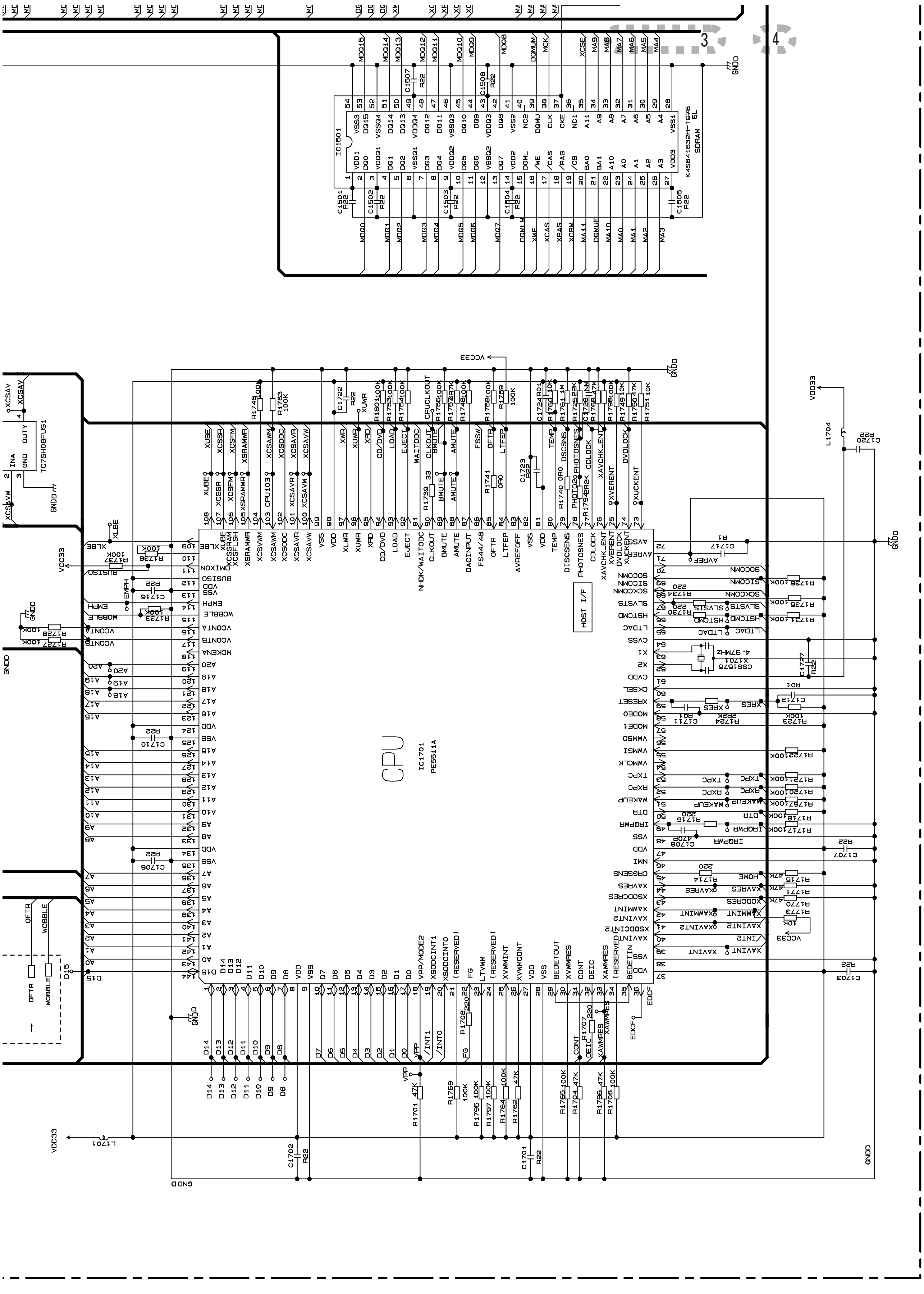
D 2/2

D-b 2/2


A
B
C
D
E
F
1
2
VCC18
L1804
VCC33
L1805
VCONTA
VCONTB
R1804 1K
R1805 1K
VCC33
L1703
A17
R1742 47K
C1718 R22
C1719 R1
R1752 100K
GNDD
C1721 R1
IC1705
FLASH MEMORY(16M)
6527
A15 A14 /BYTE A13 VSS-46 A12 DQ15/A-1 A11 DQ7 A10 DQ14 A9 DQ6 A8 DQ13 A19 DQ5 NC10 DQ12 /WE DQ4 /RESET VCC NC13 DQ11 NC14 DQ3 RY/BY DQ10 A18 DQ2 A17 DQ9 A7 DQ1 A6 DQ8 A5 DQ0 A4 /OE A3 VSS-27 A2 /CE A1 A0
D15 D7 D14 D6 D13 D5 D12 D4 D11 D3 D10 D2 D9 D1 D8 D0 XRD XCSFM A1
A16 A15 A14 A13 A12 A11 A10 A9 A20 XWR RY_XBY A19 A18 A8 A7 A6 A5 A4 A3 A2
R1732 0R0
IC1706
TC7SH08FUS1
XCSAV
INB INA GND Vcc OUTY
R1802 100K
R1803 100K
XCSAVR XCSAVW
VCC33
R1728 100K
R1727 100K
CONTA CONTB
XLBE
VCC18 VCC5
VCC18_2 VCC18_1
VCC5_1 VCC5_2
D1/2
POWER SUPPLY
VCC33 VCC33_2 VCC33_1
SRVDD
L1702
C1713 R22
IC1702
M5M5V216ATP-70HI
SRAM(2M)
A4 A3 A2 A1 A0 CS1 VSS DQ1 DQ2 DQ3 DQ4 VCC1 GND1 DQ5 DQ6 DQ7 DQ8 WE A16 A15 A14 A12 NC1 A11 A10 A9 NC2 DQ9 DQ10 DQ11 DQ12 VCC2 GND2 DQ13 DQ14 DQ15 DQ16 BC1 BC2 OE A7 A6 A5
A6 A7 A8 XRD XUBE XLBE D15 D14 D13 D12 D11 D10 D9 D8 A9 A10 A11 A12
A5 A4 A3 A2 A1 XCSSR D0 D1 D2 D3 D4 D5 D6 D7 XSRAMWR A17 A16 A15 A14 A13
R1792 0R0
R1549 0R0
R1790 47K
GND1 GND2 GND3 GND4
GNDA GNDD GNDPLL GNDV
PGND
VD8 VDD33
VD8_1 VD8_2
GND PGND VD8 VDD33
-CPU I/F
LOAD EJECT OEIC SCKCOMN LTFEP SOCOMN TEMP DSCSNS WAKEUP CONT HOME CD/DVD DVDLOCK CDLOCK PHOTOSNES FG OFTR WOBBLE
D15
A20 A19 A18 A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
EMPH
ODC-CPU I/F
A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 D6 D5 D4 D3 D2 D1 D0
WAITODC XCSODC XRD XWR XODCRES BUSISO BUSDIR /INT0 /INT1 /INT2
VDD33
L1701

D-a 2/2

D-b 2/2


IC1501
K4S641632H-TC75 6L
SDRAM
GNDD
VCC33
VDD33
TC7SH08FUS1
CPU
IC1701
PE5511A
HOST I/F
X1701
CSS1575
4.97MHZ
L1701
L1704
GND D
3
4

A

B

C

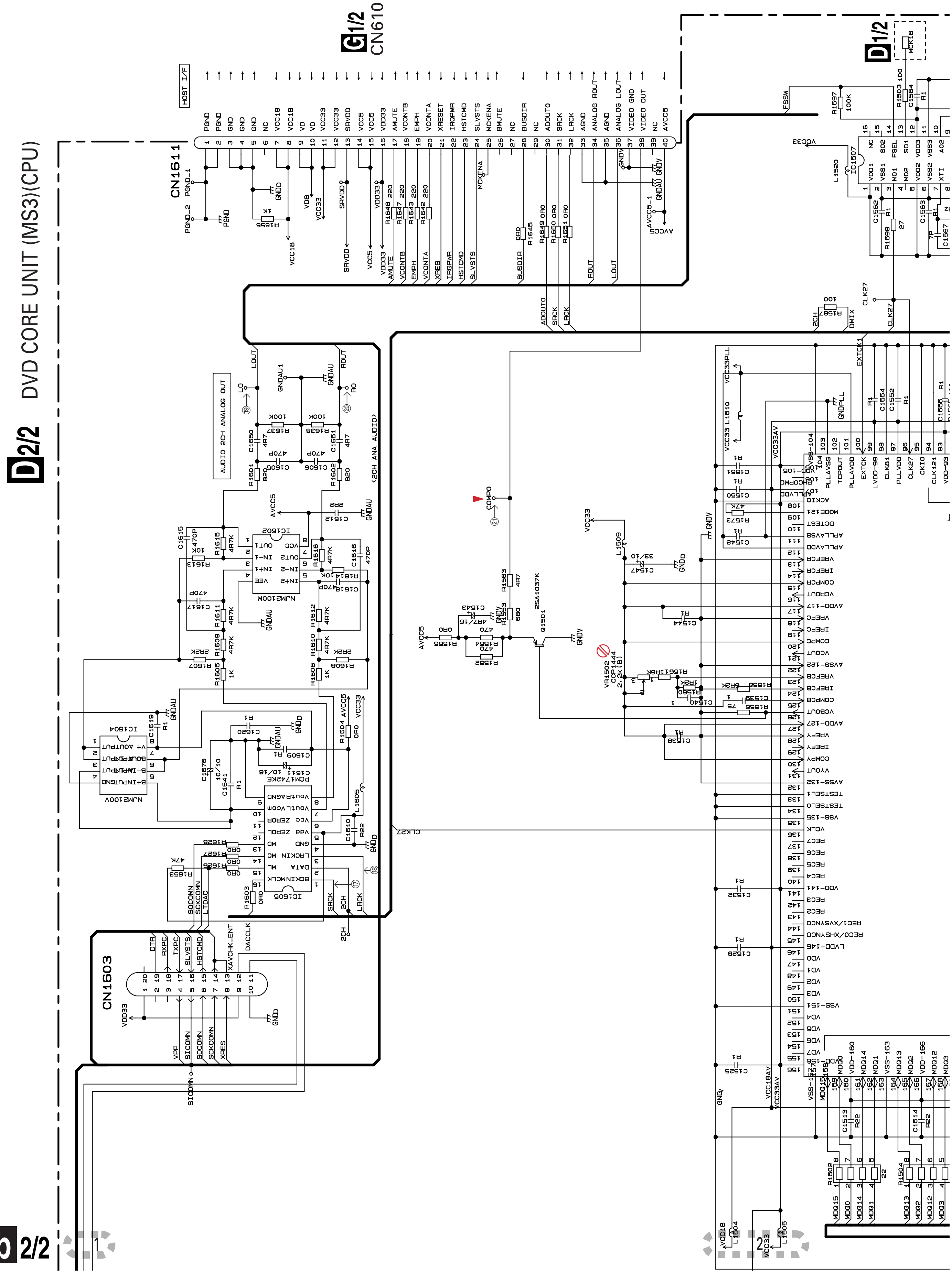
D

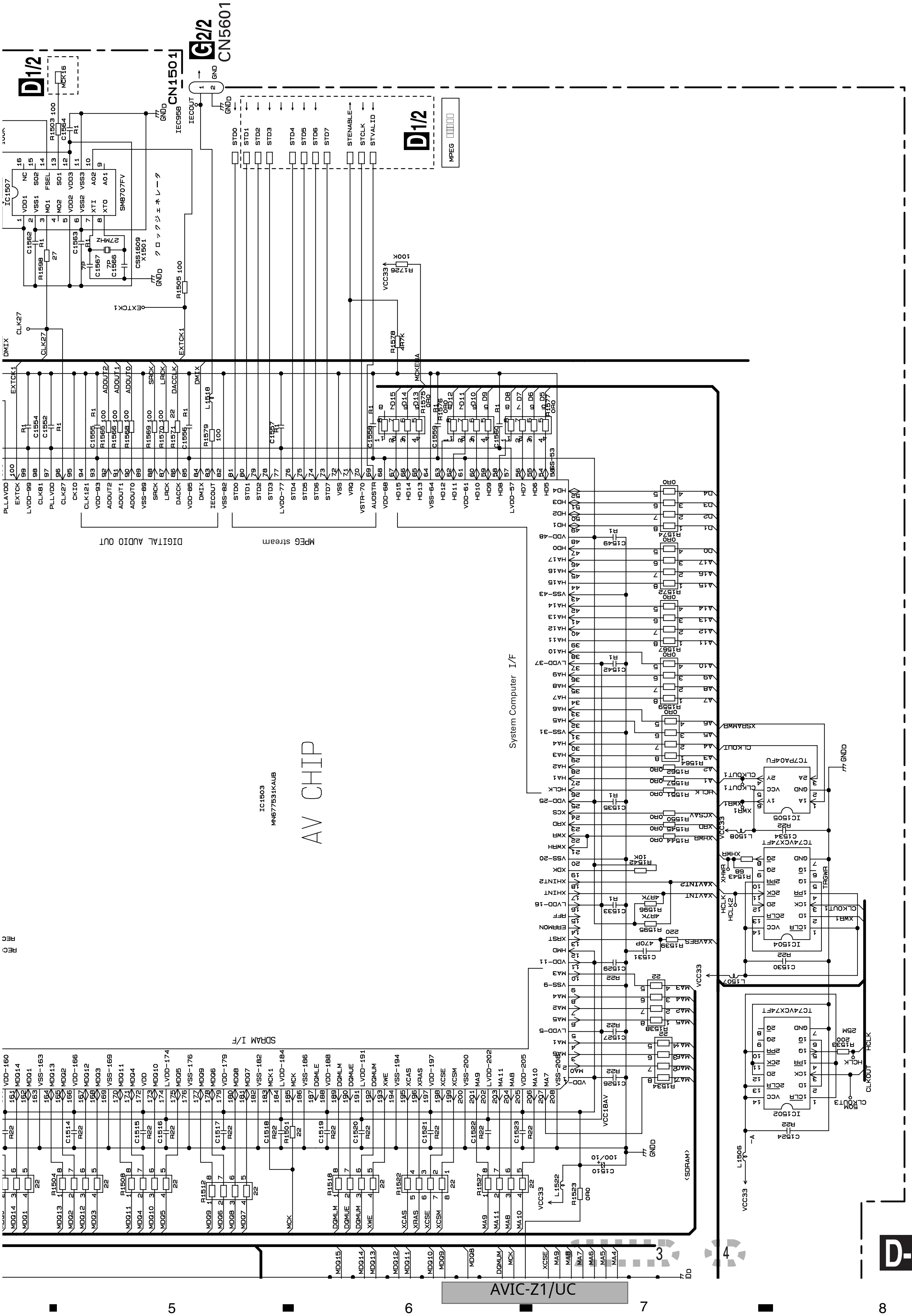
E

F

D-a 2/2

D 2/2 DVD CORE UNIT (MS3)(CPU)


CN1611
HOST I/F
G 1/2 CN6101
D 1/2
PGND
GND
NC
VCC18
VD
VCC33
SRVDD
VCC5
VDD33
AMUTE
VCONTB
EMPH
VCONTA
XRESET
IRQPWR
HSTCMD
SLVSTS
MCKENA
BMUTE
BUSDIR
ADOUTO
SRCK
LRCK
AGND
ANALOG ROUT
ANALOG LOUT
VIDEO GND
VIDEO OUT
AVCC5
AUDIO 2CH ANALOG OUT
<2CH ANA AUDIO>
LOUT
ROUT
GNDAU
IC1602
NJM2100M
IC1604
NJM2100V
IC1605
PCM1742KE
CN1603
DTR
RXPC
TXPC
SLVSTS
HSTCMD
XAVCHK_ENT
DACCLK
VPP
SICOMN
SDCOMN
SCKCOMN
XRES
VDD33
GNDD
Q1501
2SA1037K
VR1502
CCP1444
2.2K(B)
COMPO
IC1507
FSSW
VCC33
CLK27
DMIX
2CH
EXTCK
VCC33PLL
L1510
GNDPLL
VCC33AV
VCC18AV
GNDV
L1509
R1502
R1504
L1504
L1505
CLK27


CN1501
G 2/2 CN5601
D 1/2
D 1/2
IC1507
SM8707FV
クロックジェネレータ
IEC958
IECOUT
MPEG
STD0
STD1
STD2
STD3
STD4
STD5
STD6
STD7
STENABLE
STCLK
STVALID
EXTCK1
CLK27
DMIX
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
SDRAM I/F
AV CHIP
IC1503
MN677531KAUB
IC1505
TC7PA04FU
IC1504
TC74VCX74FT
IC1502
TC74VCX74FT
VCC33
GNDD
VCC18AV
HCLK
CLKOUT1
CLKOUT3
<SDRAM>

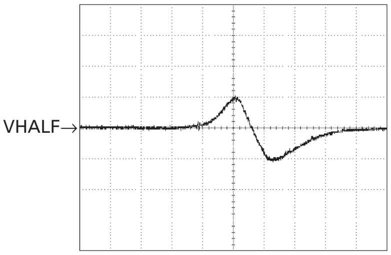
A
B
C
D
E
F

D-b 2/2

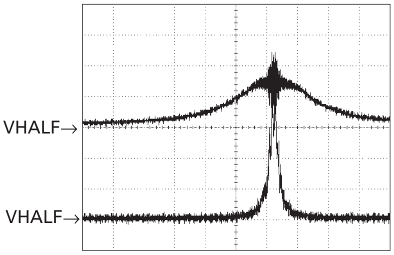
Wave form

Note:1. The encircled numbers denote measuring points in the circuit diagram.
2. Reference voltage VHALF : 1.65 V

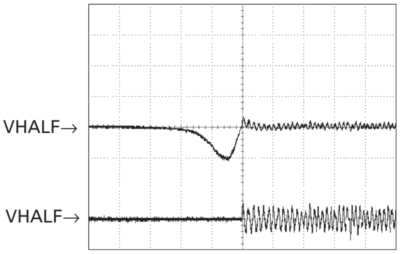
① FEY 500 mV/div. 1 ms/div.
Focus search



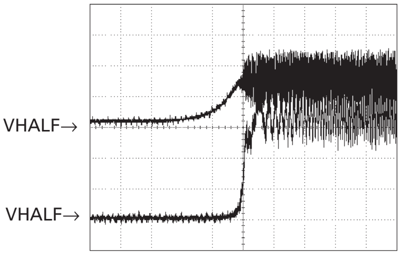
② CH1: ASF 200 ms/div. 1 ms/div.
③ CH2: RFENV
Focus search



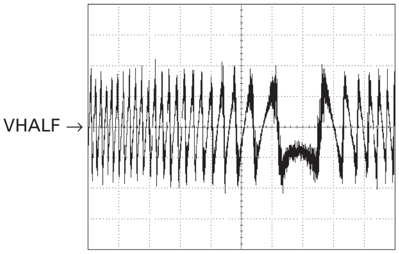
① CH1: FEY 500 mV/div. 1 ms/div.
④ CH2: FD 1 V/div. 1 ms/div.
Focus close



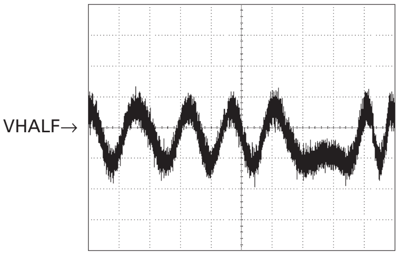
② CH1: ASF 200 mV/div. 2 ms/div.
③ CH1: RFENV
Focus close



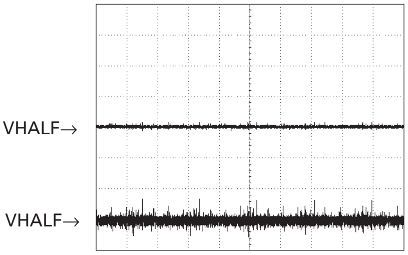
⑤ CH1: TEY 500 mV/div. 1 ms/div.
Focus close(DVD)



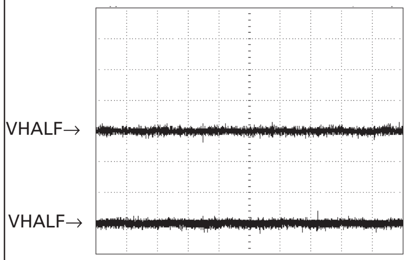
⑤ CH1: TEY 500 mV/div. 1 ms/div.
Focus close(CD)



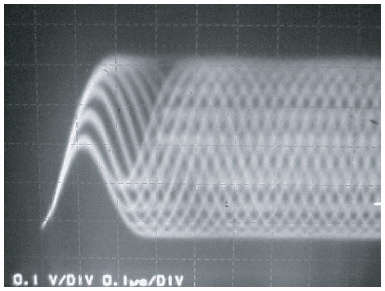
① CH1: FEY 500 mV/div.20 ms/div.
④ CH2: FD
Play



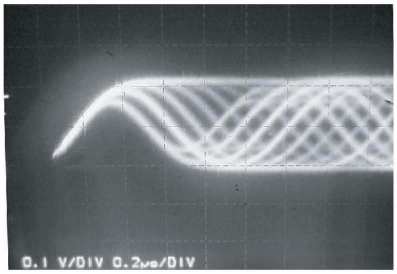
⑤ CH1: TEY 500 mV/div.20 ms/div.
⑥ CH2: TD
Play



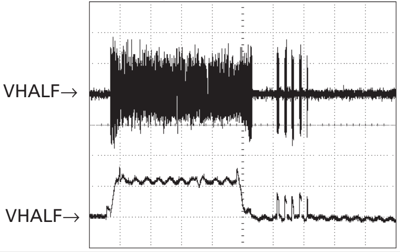
⑦ CH1: RFOUT 0.1 V/div. 0.1 µs/div.
Play(DVD surroundings on inside)



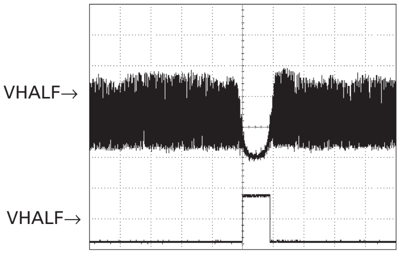
⑦ CH1: RFOUT 0.1 V/div. 0.2 µs/div.
Play(CD)



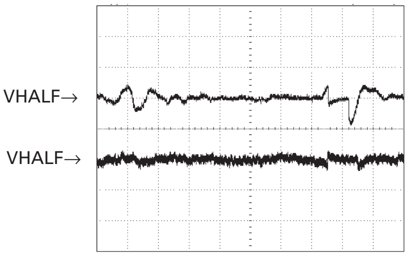
⑤ CH1: TEY 500 mV/div. 100 ms/div.
⑧ CH2: CRGDRV
Surroundings on inside->
surroundings on outside



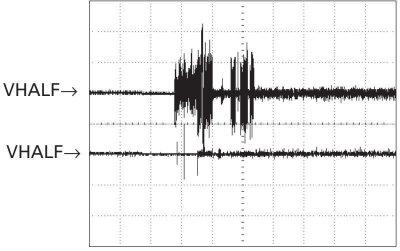
⑦ CH1: RFOUT 20 0mV/div. 100 µs/div.
⑨ CH2: BDO 2 V/div. 100 µs/div.
Black dot



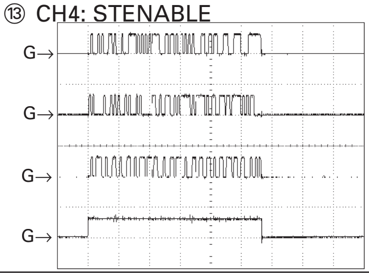
④ CH1: FD 1 V/div. 100 µs/div.
⑥ CH2: TD 500 mV/div. 100 µs/div.
Black dot



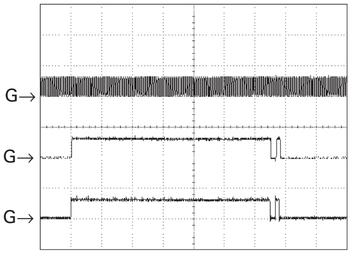
⑤ CH1: TEY 500 mV/div.1 s/div.
① CH2: FEY
EDC1 mode set up(DVD)



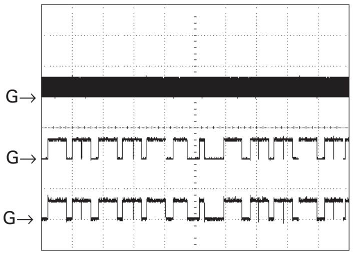
⑩ CH1: STD1
⑪ CH2: STD4 5 V/div. 2 µs/div.
⑫ CH3: STD7
⑬ CH4: STENABLE



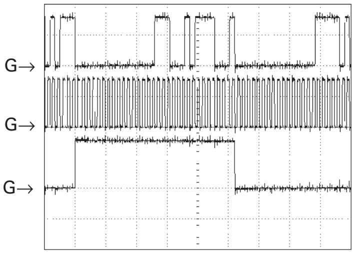
⑭ CH1: STCLK
⑮ CH2: STVALID 5 V/div. 2 µs/div.
⑬ CH3: STENABLE



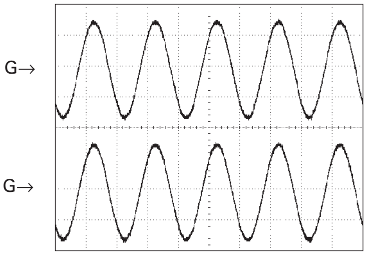
⑭ CH1: STCLK
⑮ CH2: STVALID 5 V/div. 50 µs/div.
⑬ CH3: STENABLE



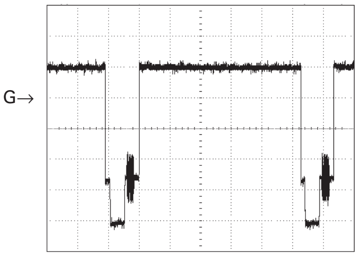
⑯ CH1: ADOUT0
⑰ CH2: SRCK 2 V/div. 2 µs/div.
⑱ CH3: LRCK



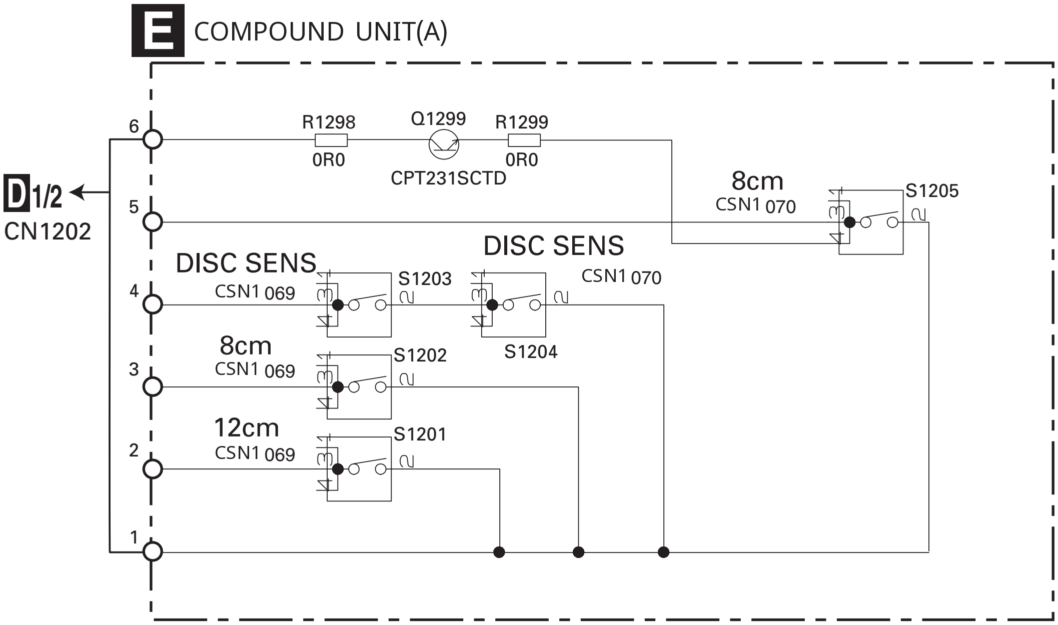
⑲ CH1: LO 1 V/div. 500 µs/div.
⑳ CH2: RO

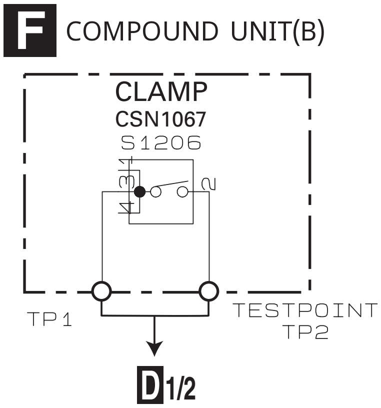


㉑ CH1: COMPO 200 mV/div. 10 µs/div.
[White 100 % output]



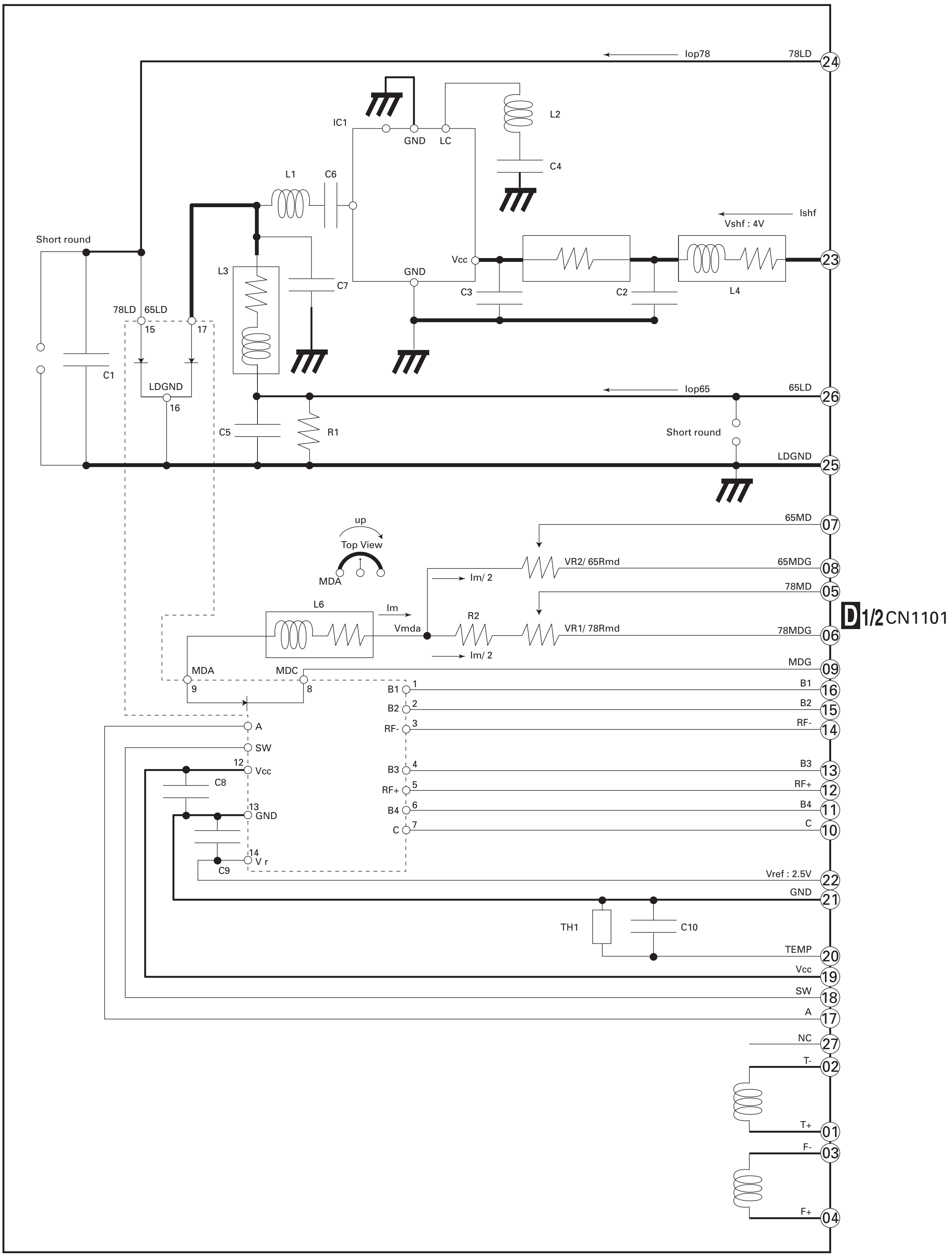
3.8 COMPOUND UNIT(A) AND COMPOUND UNIT(B)


E
COMPOUND UNIT(A)
D 1/2
CN1202
6
5
4
3
2
1
R1298
0R0
Q1299
CPT231SCTD
R1299
0R0
8cm
CSN1 070
S1205
DISC SENS
CSN1 069
S1203
DISC SENS
CSN1 070
S1204
8cm
CSN1 069
S1202
12cm
CSN1 069
S1201


F
COMPOUND UNIT(B)
CLAMP
CSN1067
S1206
TP1
TESTPOINT
TP2
D 1/2

E F

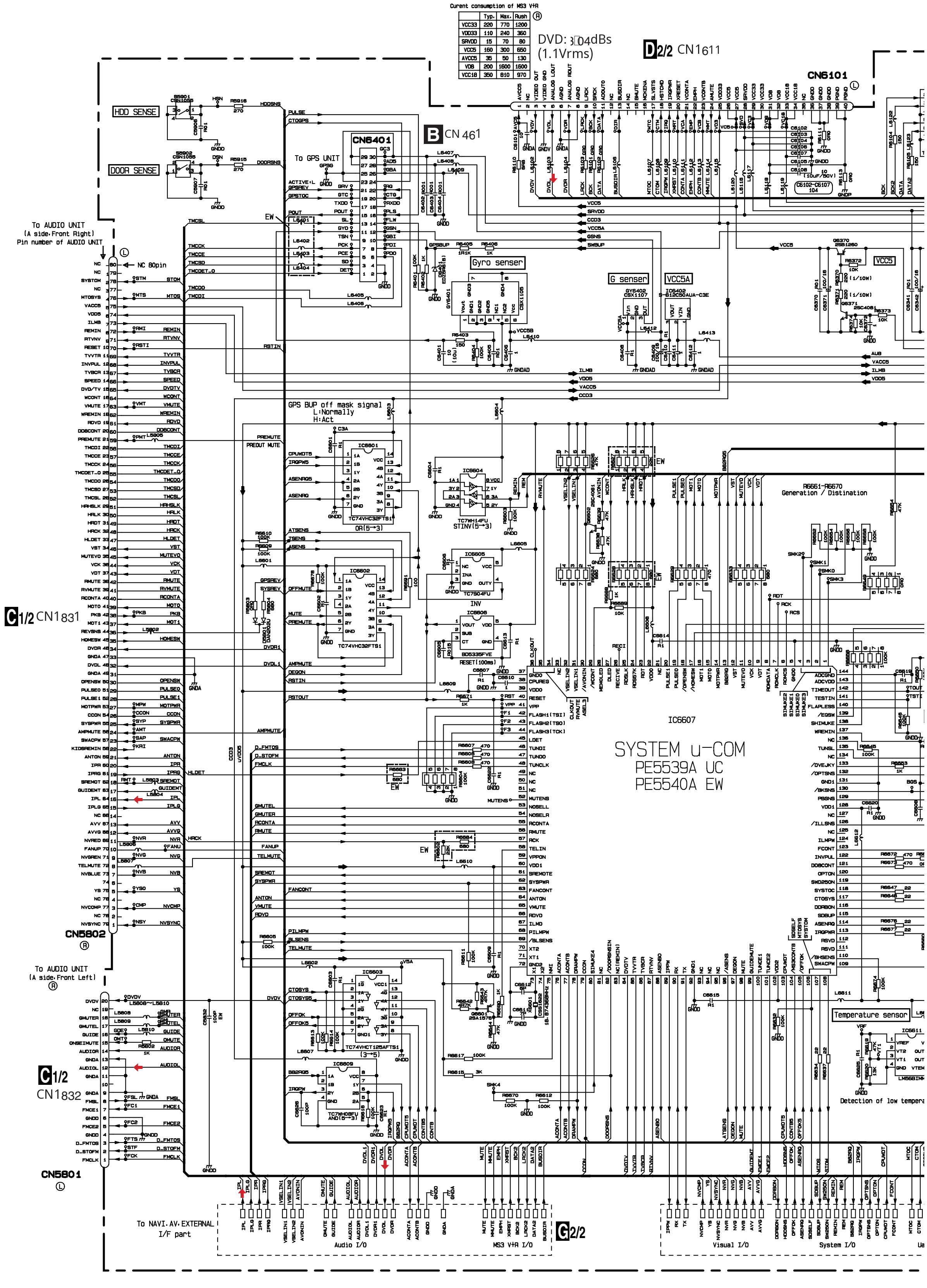
3.9 PU UNIT(REFERENCE)



Iop78
78LD
24
IC1
GND
LC
L2
C4
L1
C6
Ishf
Vshf : 4V
Short round
Vcc
23
L3
C7
GND
C3
C2
L4
78LD
65LD
15
17
C1
LDGND
16
Iop65
65LD
26
C5
R1
Short round
LDGND
25
up
Top View
MDA
65MD
07
VR2/ 65Rmd
65MDG
08
Im/ 2
78MD
05
L6
Im
R2
Vmda
VR1/ 78Rmd
78MDG
06
D1/2 CN1101
Im/ 2
MDA
MDC
9
8
MDG
09
B1
1
B1
16
B2
2
B2
15
RF-
3
RF-
14
A
SW
12
Vcc
C8
B3
4
B3
13
RF+
5
RF+
12
13
GND
B4
6
B4
11
C
7
C
10
14
V r
C9
Vref : 2.5V
22
GND
21
TH1
C10
TEMP
20
Vcc
19
SW
18
A
17
NC
27
T-
02
T+
01
F-
03
F+
04

3.10 NAVI MOTHER PCB(SYSCOM•P/S)(GUIDE PAGE)

G-a 1/2



Curent consumption of MS3 V+R

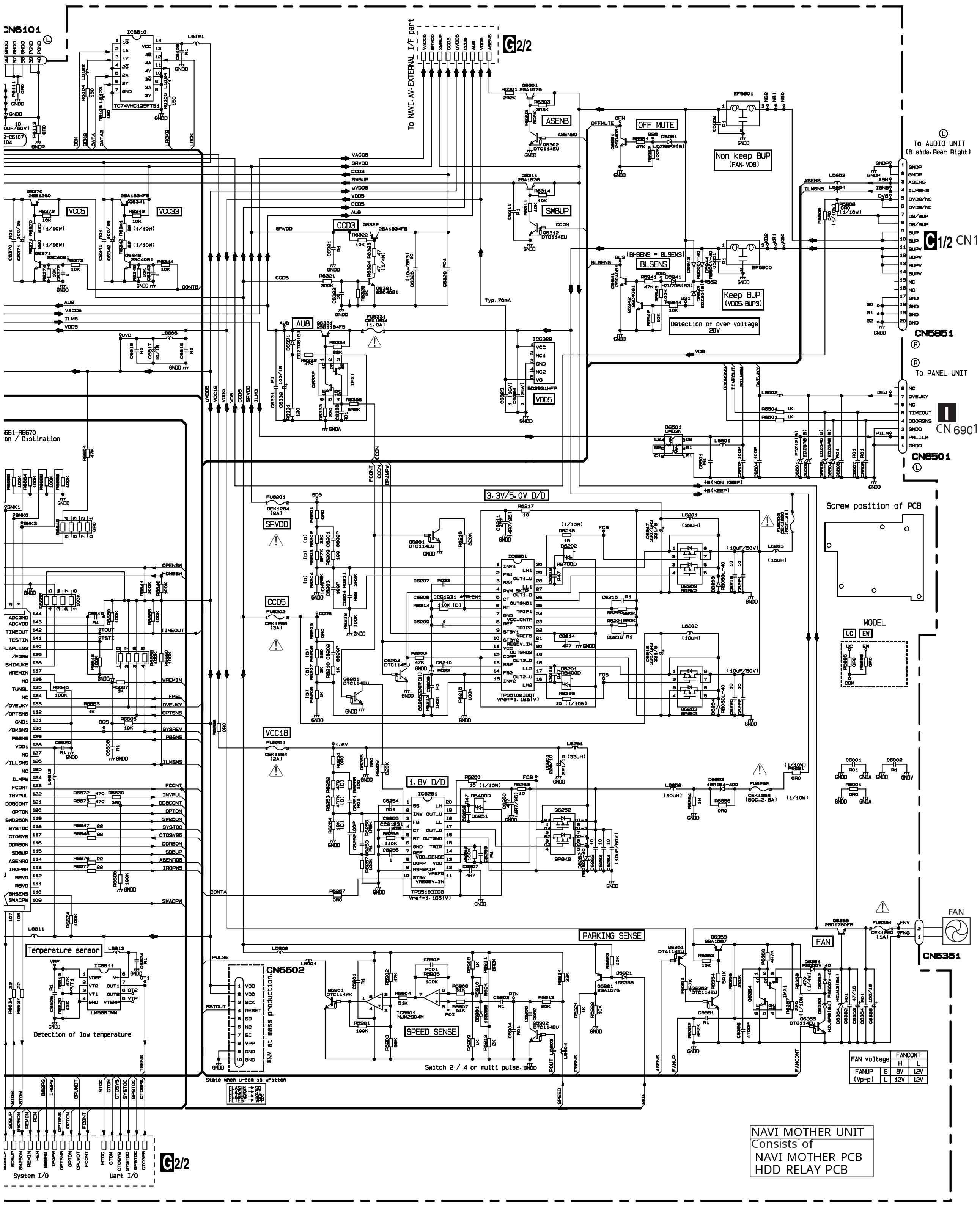
	Typ.	Max.	Rush
VCC33	220	770	1200
VDD33	110	240	360
SRVDD	15	70	80
VCC5	160	300	650
AVCC5	35	50	130
VD8	200	1600	1600
VCC18	350	810	970

Ⓡ
DVD: 304dBs
(1.1Vrms)
D 2/2 CN1611
CN6101
B CN 461
CN6401
HDD SENSE
DOOR SENSE
To GPS UNIT
Gyro senser
G senser
VCC5A
VCC5
To AUDIO UNIT
(A side:Front Right)
Pin number of AUDIO UNIT
NC 80pin
GPS BUP off mask signal
L:Normally
H:Act
IC6601
TC74VHC32FTS1
OR(5→3)
IC6604
TC7WH14FU
STINV(5→3)
R6651~R6670
Generation / Distination
IC6602
TC74VHC32FTS1
IC6605
TC7S04FU
INV
IC6606
S0533SFVE
RESET(100ms)
C 1/2 CN1831
IC6607
SYSTEM u-COM
PE5539A UC
PE5540A EW
CN5802
To AUDIO UNIT
(A side:Front Left)
IC6603
TC74VHCT125AFTS1
(3→5)
IC6609
TC7WH08FU
AND(5→3)
Temperature sensor
IC6611
Detection of low tempera
C 1/2
CN1832
CN5801
To NAVI・AV・EXTERNAL
I/F part
Audio I/O
MS3 V+R I/O
G 2/2
Visual I/O
System I/O
EW

G 1/2

G-b 1/2

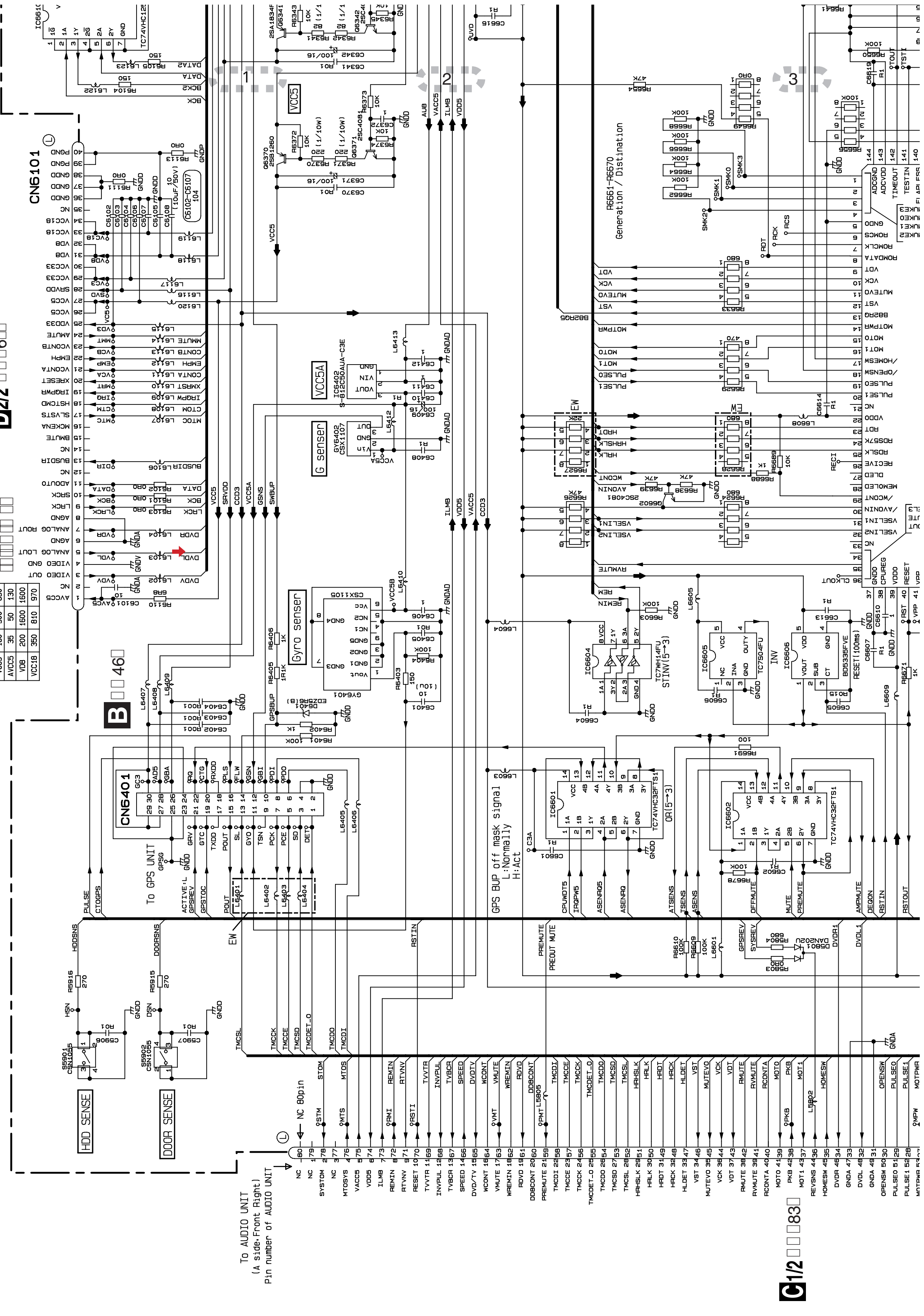
G1/2 NAVI MOTHER PCB(SYSCOM¥P/S)


CN6101
IC6610
TC74VHC125FTS1
To NAVI.AV.EXTERNAL I/F part
G2/2
ASENB
OFF MUTE
Non keep BUP
(FAN・VD8)
To AUDIO UNIT
(B side.Rear Right)
C1/2 CN1002
CN5851
SWBUP
VCC5
VCC33
CCD3
BLSENS
(BHSENS = BLSENS)
Keep BUP
(VDD5・BUP3)
Detection of over voltage
20V
AUB
VDD5
Typ.70mA
To PANEL UNIT
I CN6901
CN6501
+B(NON KEEP)
+B(KEEP)
3.3V/5.0V D/D
SRVDD
CCD5
VCC18
1.8V D/D
Screw position of PCB
MODEL
UC
EW
Temperature sensor
Detection of low temperature
CN6602
*NM at mass production
State when u-com is written
SPEED SENSE
PARKING SENSE
Switch 2 / 4 or multi pulse.
FAN
CN6351
System I/O
Uart I/O
G2/2
NAVI MOTHER UNIT
Consists of
NAVI MOTHER PCB
HDD RELAY PCB

FAN voltage		FANCONT H	FANCONT L
FANUP	S	8V	12V
(Vp-p)	L	12V	12V

G1/2

G-b 1/2

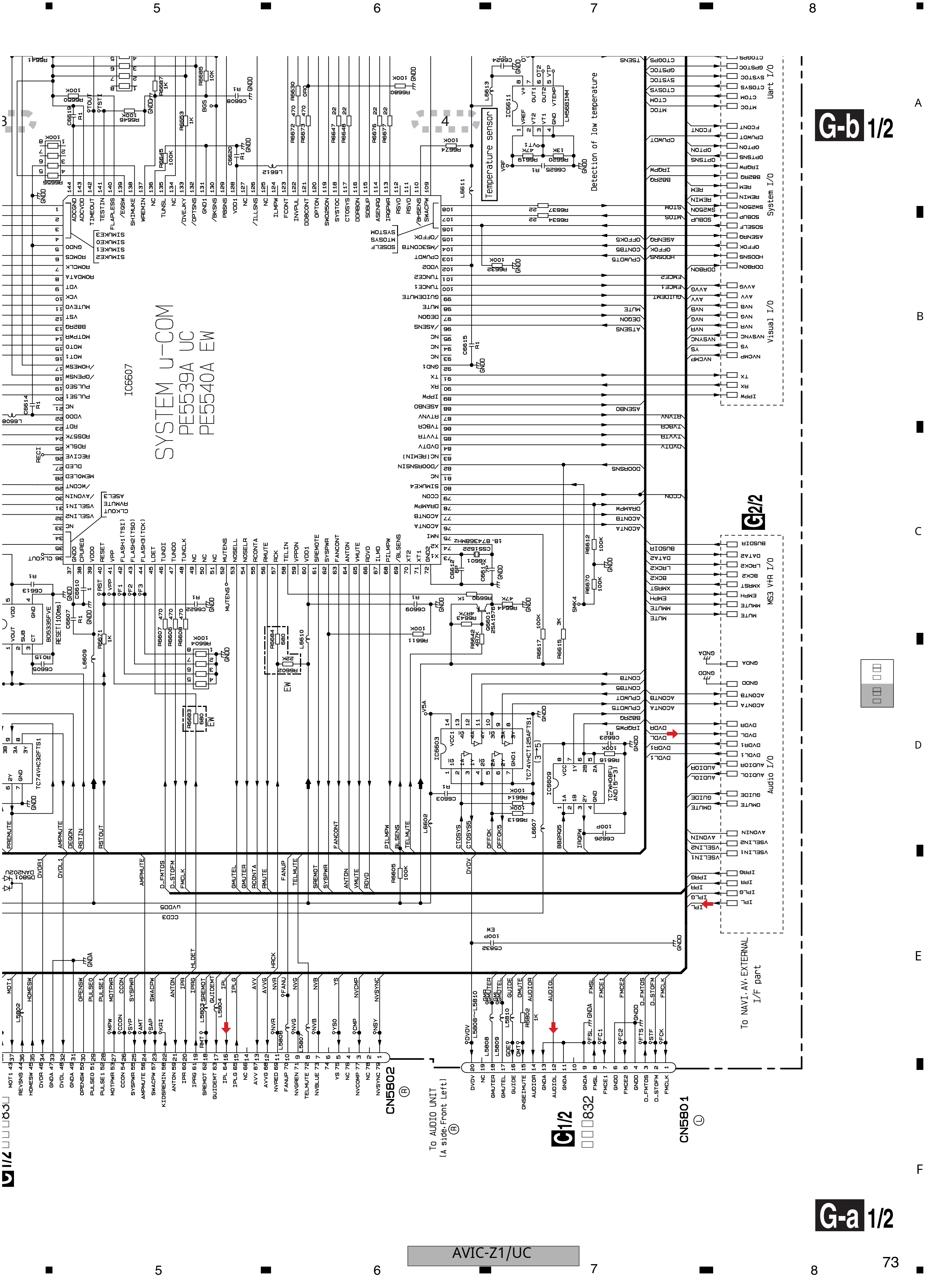

CN6101
CN6401
To GPS UNIT
ACTIVE:L
Gyro senser
GY6401
CSX1105
G senser
GY6402
CSX1107
VCC5A
IC6402
S-812C50AUA-C3E
VCC5
HDD SENSE
DOOR SENSE
S5901
CSN1055
S5902
CSN1055
To AUDIO UNIT
(A side,Front Right)
Pin number of AUDIO UNIT
NC 80pin
GPS BUP off mask signal
L:Normally
H:Act
R6661-R6670
Generation / Distination
IC6601
TC74VHC32FTS1
OR(5→3)
IC6602
TC74VHC32FTS1
IC6604
TC7WH14FU
STINV(5→3)
IC6605
TC7S04FU
INV
IC6606
BD5335FVE
RESET(100ms)
IC6101
TC74VHC125
Q6370
2SB1260
Q6371
2SC4081
Q6341
2SA1834F
Q6342
2SC4081
Q6602
2SC4081
D6401
EDZ5R6(B)
D5801
DA202U
EW
D2/2
B
C1/2
1
2
3

Curent consumption of MS3 V+R

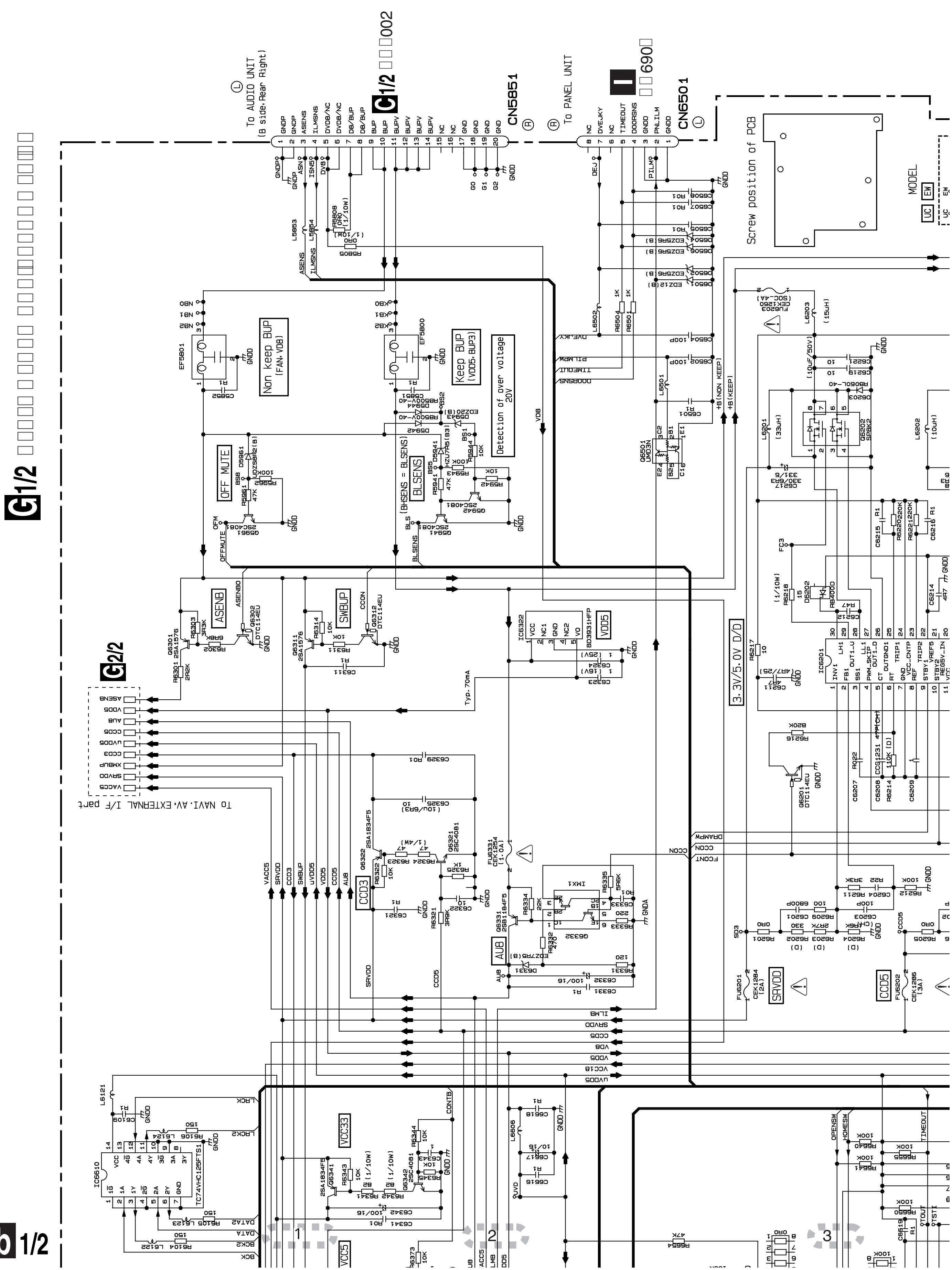
	Typ.	Max.	Rush
VCC33	220	770	1200
VDD33	110	240	360
SRVDD	15	70	80
VCC5	160	300	650
AVCC5	35	50	130
VDB	200	1600	1600
VCC18	350	810	970

G-a 1/2

G-b 1/2


5
6
7
8
A
B
C
D
E
F
SYSTEM u-COM
PE5539A UC
PE5540A EW
IC6607
Temperature sensor
IC6611
LM56BIMM
Detection of low temperature
IC6603
TC74VHCT125AFTS1
IC6609
TC7WH08FU
BD5335FVE
RESET(100ms)
TC74VHC32FTS1
Q6601
2SA1576
X6601
CSS1622
18.874368MHz
Uart I/O
System I/O
Visual I/O
MS3 V+R I/O
Audio I/O
G 2/2
C 1/2
CN5802
CN5801
To AUDIO UNIT
(A side,Front Left)
To NAVI.AV.EXTERNAL
I/F part
EW

G-a 1/2


G1/2
To AUDIO UNIT (B side:Rear Right)
C1/2
CN5851
To PANEL UNIT
I
CN6501
Screw position of PCB
MODEL
UC
EW
Non Keep BUP (FAN.VD8)
Keep BUP (VDD5.BUP3)
Detection of over voltage 20V
OFF MUTE
BLSENS
(BHSENS = BLSENS)
ASENB
SWBUP
VDD5
BD3931HFP
IC6322
+B(NON KEEP)
+B(KEEP)
3.3V/5.0V D/D
IC6201
G2/2
To NAVI.AV.EXTERNAL I/F part
ASENB
VDD5
AU8
CCD5
UVDD5
CCD3
XMBUP
SRVDD
VACC5
Typ.70mA
CCD3
AU8
SRVDD
CCD5
VCC33
VCC5
IC6610
TC74VHC125FTS1
ILMB
SRVDD
CCD5
VD8
VDD5
VCC18
UVDD5
1
2
3

G-b 1/2

A

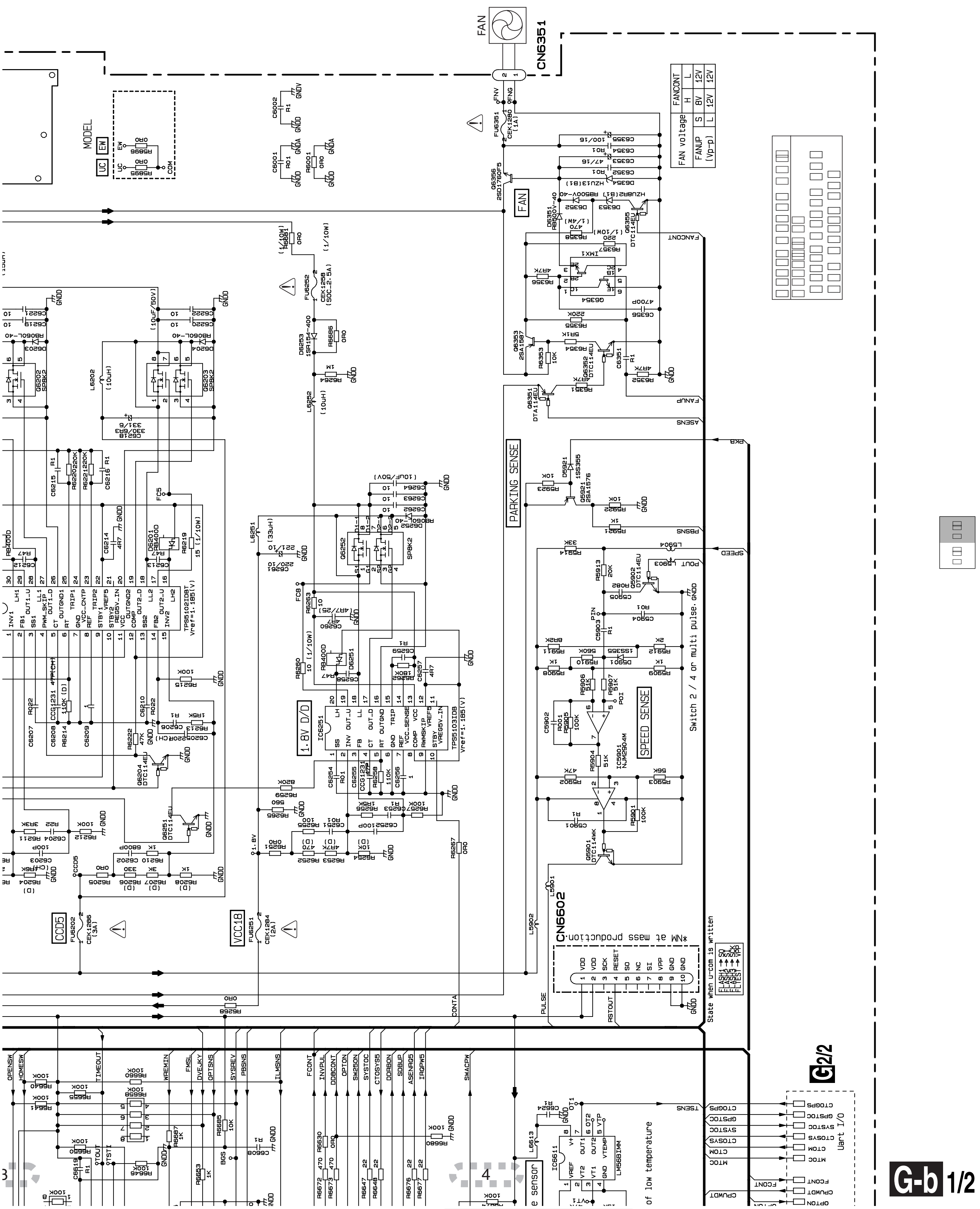
B

C

D

E

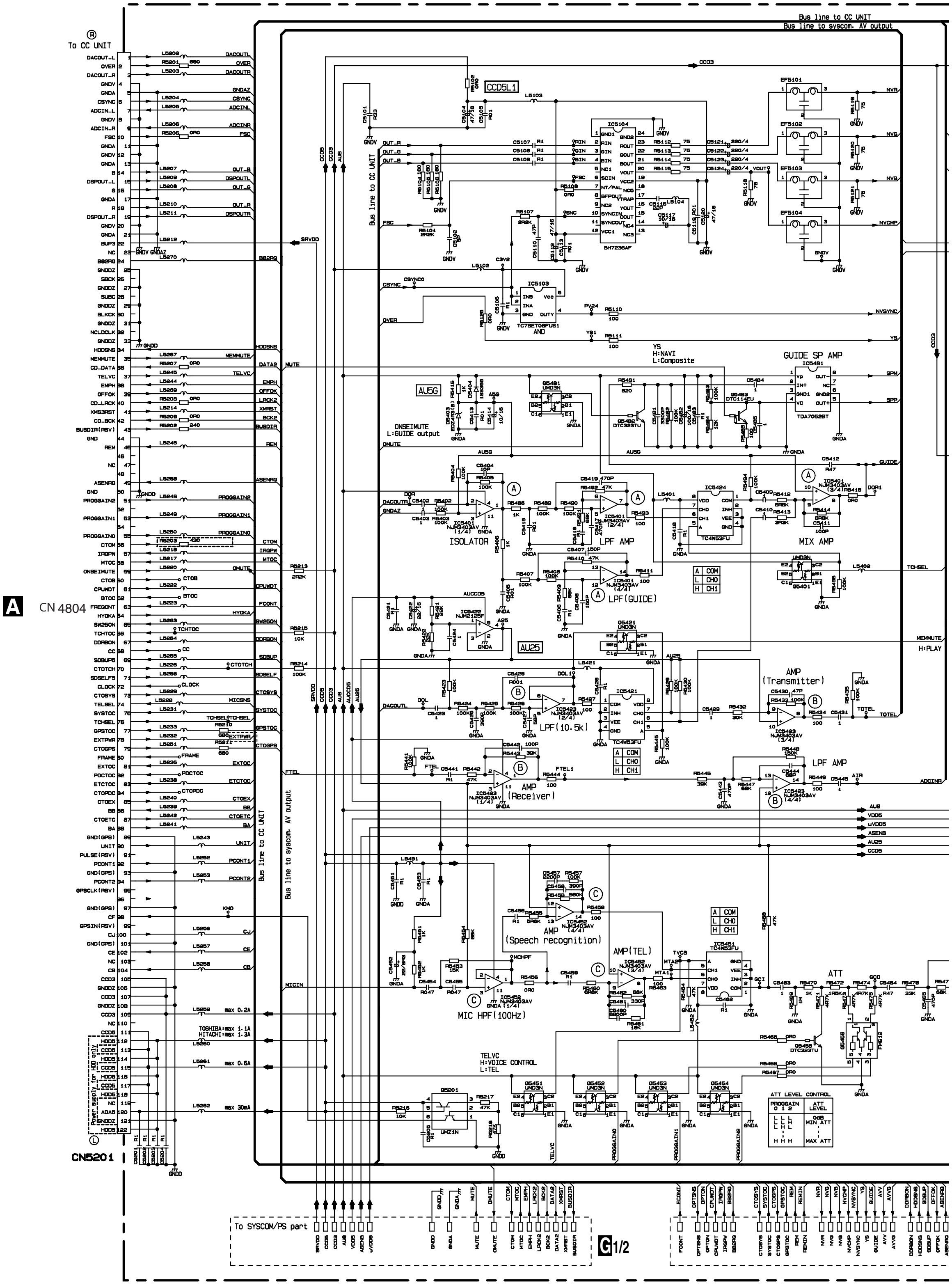
F


FAN
CN6351
MODEL
UC
EW
FAN
FANCONT
FAN voltage
FANUP (Vp-p)
H
L
S 8V 12V
L 12V 12V
PARKING SENSE
SPEED SENSE
Switch 2 / 4 or multi pulse.
1.8V D/D
IC6251 TPS5103IDB
TPS5102IDBT
IC5901 NJM2904M
CN6602
*NM at mass production.
State when u-com is written
VCC18
CCD5
G2/2
Uart I/O
IC6611 LM50BIMM
of low temperature
e sensor

G-b 1/2

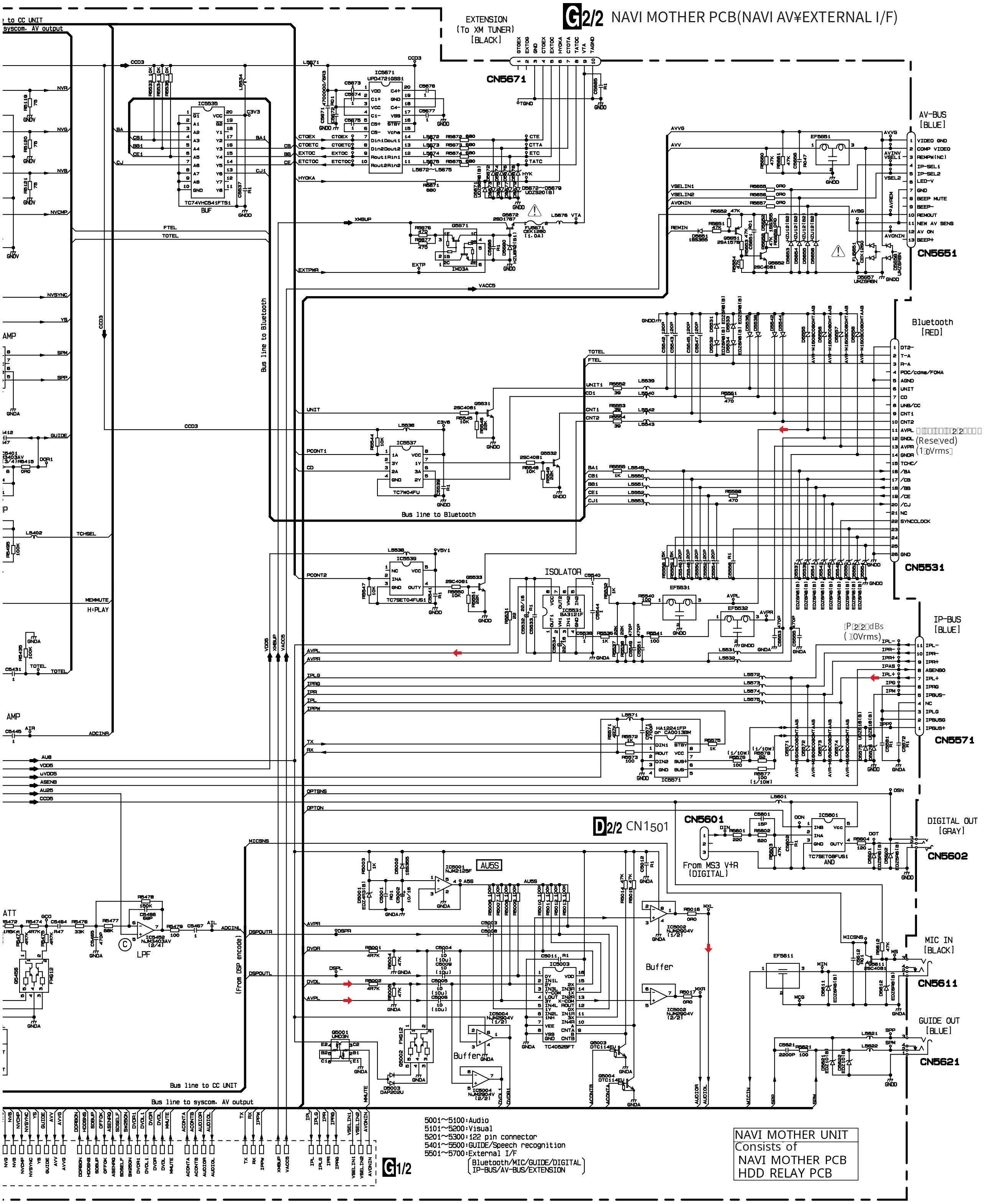
3.11 NAVI MOTHER PCB(NAVI AV•EXTERNAL I/F)(GUIDE PAGE)

G-a 2/2


A
CN 4804
To CC UNIT
CN5201
Bus line to CC UNIT
Bus line to syscom. AV output
CCD5L1
IC5104
BH7236AF
EF5101
EF5102
EF5103
EF5104
IC5103
TC7SET08FUS1
AND
YS
H:NAVI
L:Composite
GUIDE SP AMP
IC5481
TDA7052BT
AU5G
ONSEIMUTE
L:GUIDE output
ISOLATOR
LPF AMP
LPF(GUIDE)
MIX AMP
IC5424
TC4W53FU
IC5401
NJM3403AV
IC5422
NJM2125F
AU25
LPF(10.5k)
IC5421
TC4W53FU
AMP
(Transmitter)
AMP
(Receiver)
LPF AMP
IC5423
NJM3403AV
AMP
(Speech recognition)
AMP(TEL)
IC5452
NJM3403AV
MIC HPF(100Hz)
IC5451
TC4W53FU
ATT
TELVC
H:VOICE CONTROL
L:TEL
Q5201
UMZ1N
ATT LEVEL CONTROL
Power Supply for HDD only
To SYSCOM/PS part
G 1/2

G 2/2

G-b 2/2

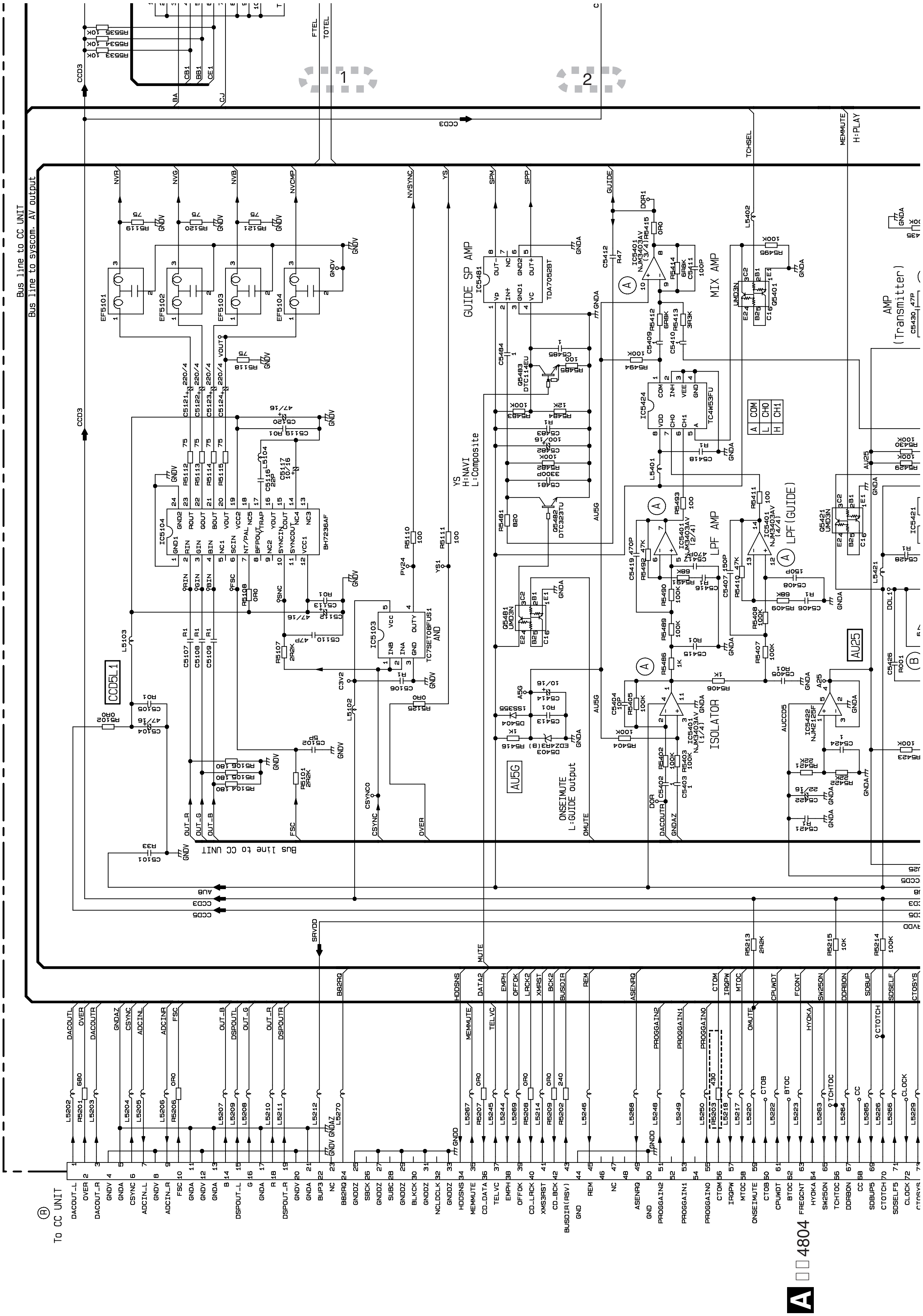

G2/2 NAVI MOTHER PCB(NAVI AV¥EXTERNAL I/F)
EXTENSION
(To XM TUNER)
[BLACK]
CN5671
AV-BUS
[BLUE]
CN5651
Bluetooth
[RED]
CN5531
IP-BUS
[BLUE]
CN5571
DIGITAL OUT
[GRAY]
CN5602
MIC IN
[BLACK]
CN5611
GUIDE OUT
[BLUE]
CN5621
CN5601
D2/2 CN1501
From MS3 V+R
(DIGITAL)
IC5671
UPD4721GS
IC5535
TC74VHC541FTS1
BUF
IC5537
TC7W04FU
IC5539
TC7SET04FUS1
IC5531
BA3121F
ISOLATOR
IC5571
HA12241FP or CA0013BM
IC5601
TC7SET08FUS1
AND
IC5001
NJM2135F
AU5S
IC5003
TC4052BFT
IC5002
NJM2904V
IC5004
NJM2904V
IC5452
NJM3403AV
LPF
ATT
AMP
Buffer
Bus line to Bluetooth
Bus line to CC UNIT
Bus line to syscom. AV output
to CC UNIT
syscom. AV output
(From DSP encode)
(Reserved)
(1.0Vrms)
(P: 2 dBs
(1.0Vrms)
G1/2

5001~5100:Audio
5101~5200:Visual
5201~5300:122 pin connector
5401~5500:GUIDE/Speech recognition
5501~5700:External I/F
(Bluetooth/MIC/GUIDE/DIGITAL
IP-BUS/AV-BUS/EXTENSION

NAVI MOTHER UNIT
Consists of
NAVI MOTHER PCB
HDD RELAY PCB

G2/2

G-b 2/2

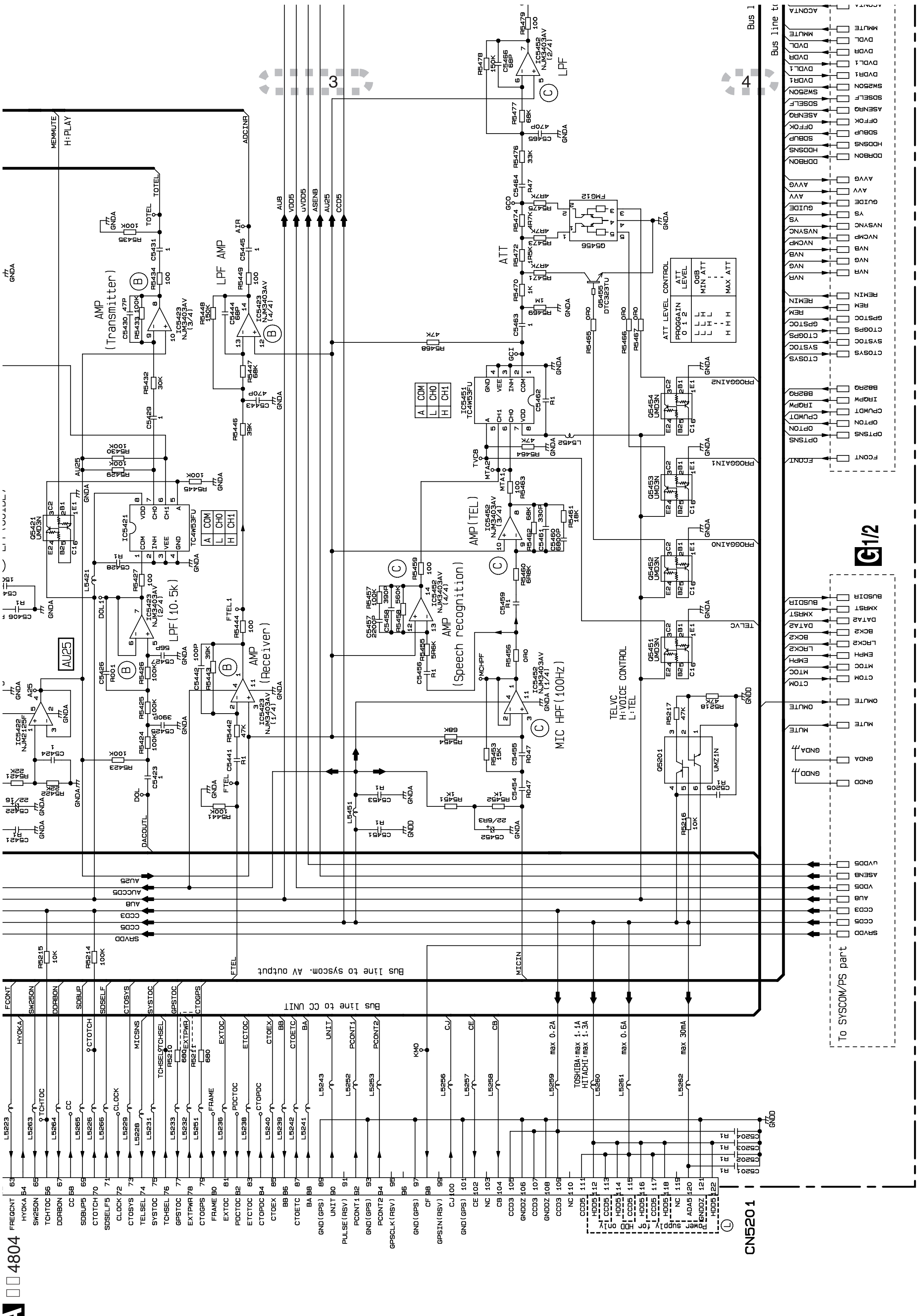


GUIDE SP AMP
IC5481 TDA7052BT
MIX AMP
IC5401 NJM3403AV (3/4)
LPF AMP
IC5401 NJM3403AV (2/4)
LPF(GUIDE)
IC5401 NJM3403AV (4/4)
ISOLATOR
IC5401 NJM3403AV (1/4)
IC5424 TC4W53FU
A COM
L CH0
H CH1
IC5104 BH7236AF
IC5103 TC7SET08FUS1 AND
IC5422 NJM2125F
AMP (Transmitter)
EF5101
EF5102
EF5103
EF5104
Q5481 UMD3N
Q5482 DTC323TU
Q5483 DTC114EU
Q5401 UMD3N
Q5421 UMD3N
YS H:NAVI L:Composite
ONSEIMUTE L:GUIDE output
MEMMUTE H:PLAY
Bus line to CC UNIT
Bus line to syscom. AV output
CCD5L1
AU5G
AU25
To CC UNIT
CCD3
CCD5
AUB
SRVDD
MUTE
1
2
A 4804

G-a 2/2

A
B
C
D
E
F

G-b 2/2


A 4804
3
4
LPF AMP
AMP (Transmitter)
AMP (Receiver)
LPF (10.5k)
AMP (TEL)
AMP (Speech recognition)
MIC HPF (100Hz)
LPF
ATT
ATT LEVEL CONTROL
PROGGAIN 0 1 2
ATT LEVEL
0dB MIN ATT
MAX ATT
TELVC H:VOICE CONTROL L:TEL
IC5421 TC4W53FU
IC5451 TC4W53FU
IC5422 NJM2125F
IC5423 NJM3403AV
IC5452 NJM3403AV
Q5421 UMD3N
Q5451 UMD3N
Q5452 UMD3N
Q5453 UMD3N
Q5454 UMD3N
Q5455 DTC323TU
Q5456 FMG12
Q5201 UMZ1N
AU25
MEMMUTE H:PLAY
Bus line to syscom. AV output
Bus line to CC UNIT
Bus line to
G 1/2
To SYSCOM/PS part
TOSHIBA:max 1.1A
HITACHI:max 1.3A
max 0.2A
max 0.6A
max 30mA
Power supply for HDD only
CN5201

G-a 2/2

A

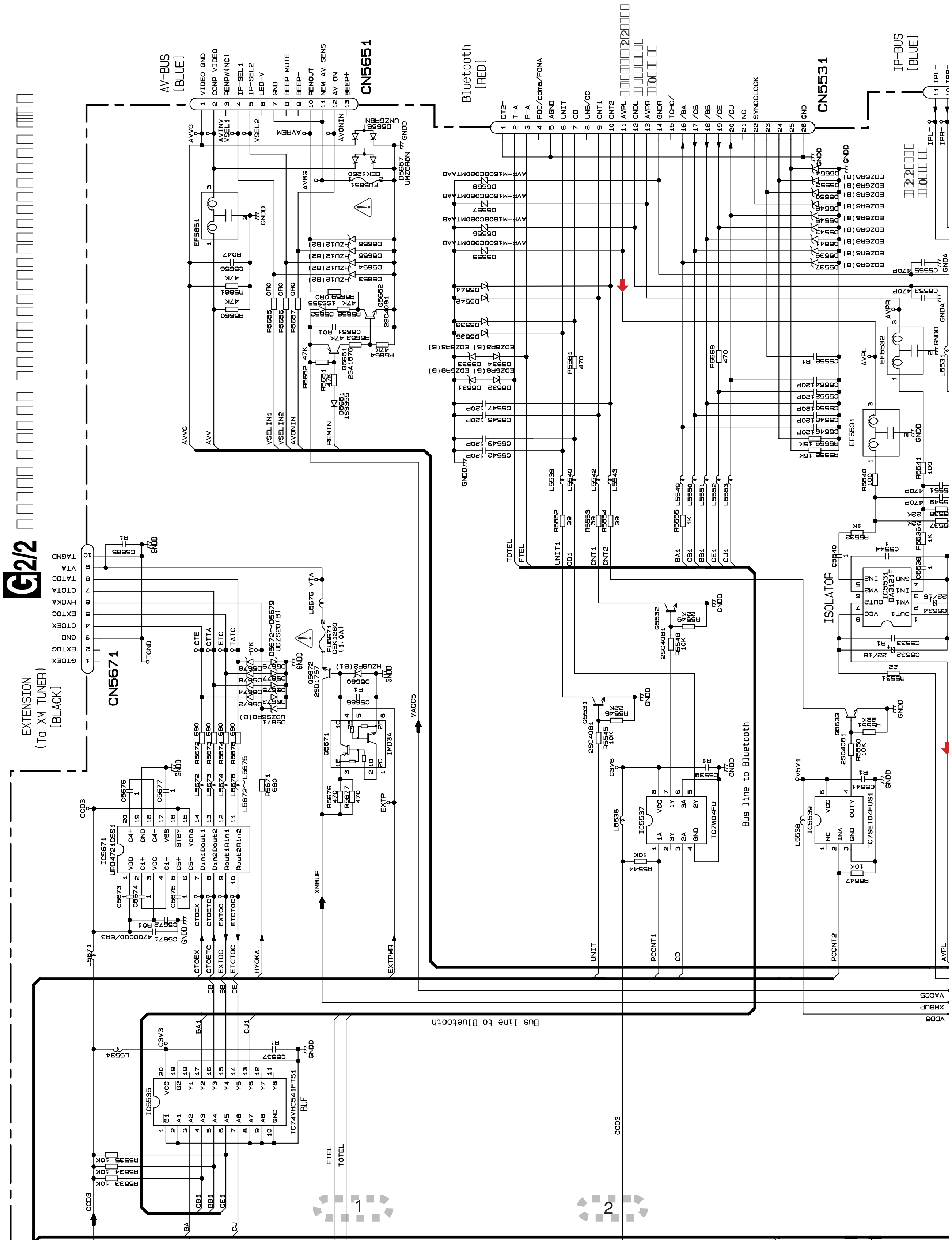
B

C

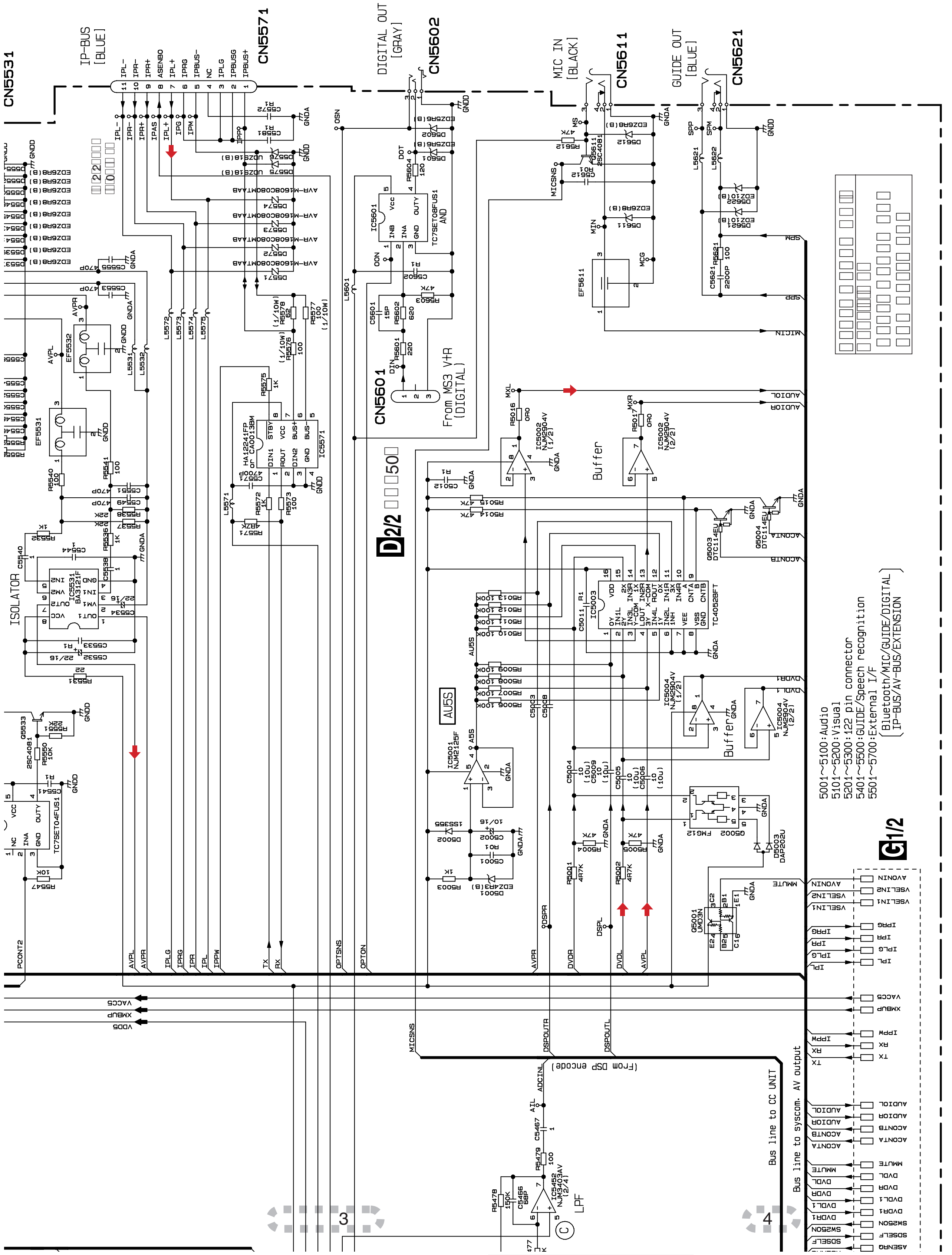
D

E

F

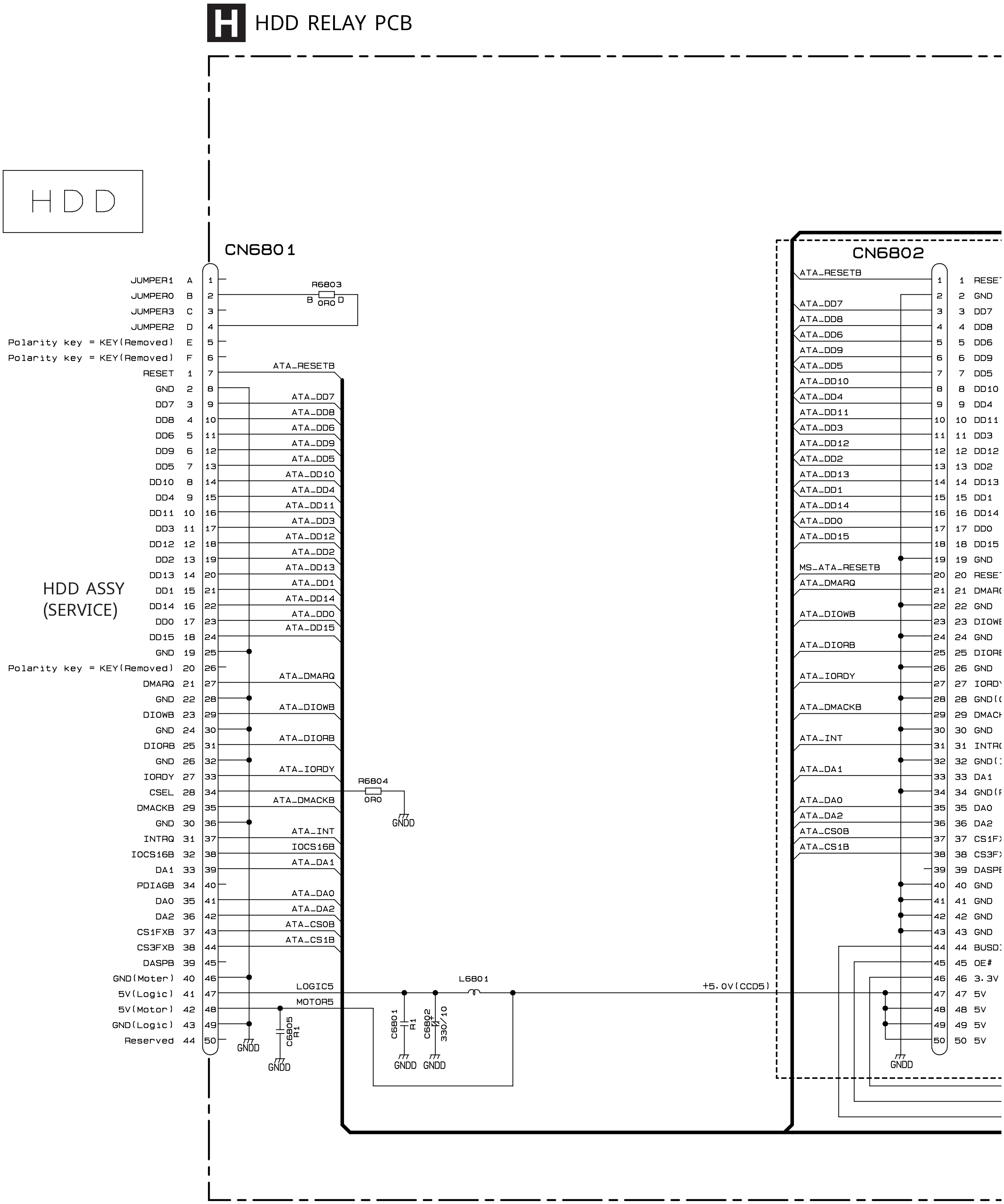

G 2/2
AV-BUS [BLUE]
CN5651
1 VIDEO GND
2 COMP VIDEO
3 REMPW(NC)
4 IP-SEL1
5 IP-SEL2
6 LED-V
7 GND
8 BEEP MUTE
9 BEEP-
10 REMOUT
11 NEW AV SENS
12 AV ON
13 BEEP+
Bluetooth [RED]
CN5531
1 DT2-
2 T-A
3 R-A
4 PDC/cdma/FOMA
5 AGND
6 UNIT
7 CD
8 UNB/CC
9 CNT1
10 CNT2
11 AVPL
12 GNDL
13 AVPR
14 GNDR
15 TCHC/
16 /BA
17 /CB
18 /BB
19 /CE
20 /CJ
21 NC
22 SYNCCLOCK
23
24
25
26 GND
IP-BUS [BLUE]
EXTENSION (To XM TUNER) [BLACK]
CN5671
1 GTOEX
2 EXTGB
3 GND
4 CTOEX
5 EXTOC
6 HYOKA
7 CTOTA
8 TATOC
9 VTA
10 TAGND
IC5671 UPD4721GS
IC5535 TC74VHC541FTS1 BUF
IC5537 TC7W04FU
IC5539 TC7SET04FUS1
IC5531 BA3121F
ISOLATOR
Bus line to Bluetooth
EF5651
EF5531
EF5532
Q5531 2SC4081
Q5532 2SC4081
Q5533 2SC4081
Q5571 IMD3A
Q5672 2SD1767
FU5651 CEK1260
FU5671 CEK1260 (1.0A)
D5657 UMZ6RBN
D5658 UMZ6RBN
D5672~D5679 UDZS20(B)
VACC5
XMBUP
VDD5
EXTPWR
AVVG
AVV
VSELIN1
VSELIN2
AVONIN
REMIN
TOTEL
FTEL
UNIT1
CD1
CNT1
CNT2
BA1
CB1
BB1
CE1
CJ1
UNIT
PCONT1
CD
PCONT2
AVPL
CCD3
C3V3
1
2

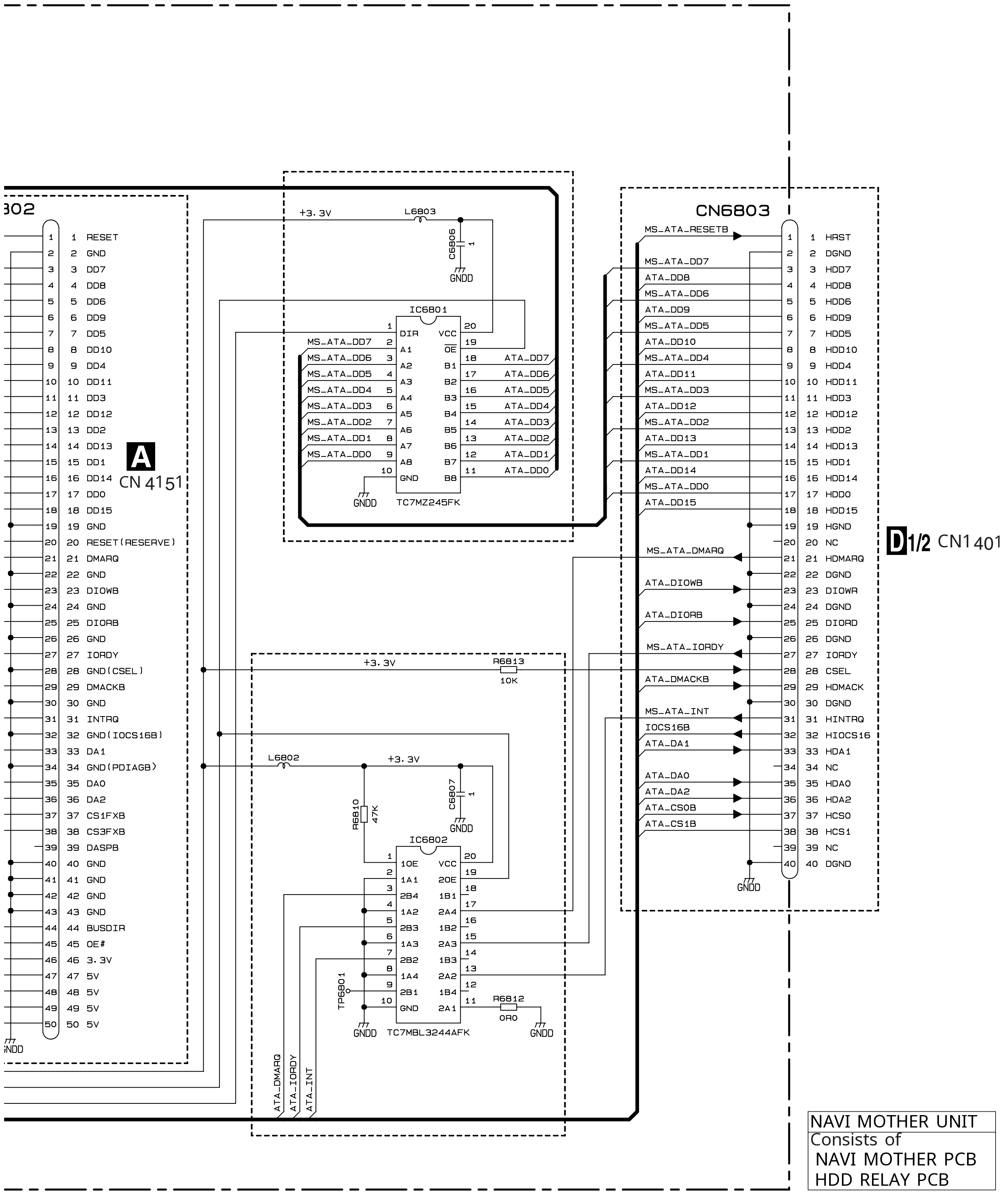
G-b 2/2


CN5531
IP-BUS [BLUE]
CN5571
DIGITAL OUT [GRAY]
CN5602
MIC IN [BLACK]
CN5611
GUIDE OUT [BLUE]
CN5621
CN5601
From MS3 V+R (DIGITAL)
IC5601 TC7SET08FUS1 AND
IC5571 HA12241FP or CA0013BM
ISOLATOR
IC5531 BA3121F
IC5541 TC7SET04FUS1
EF5531
EF5532
EF5611
Buffer
IC5002 NJM2904V (1/2)
IC5002 NJM2904V (2/2)
IC5003 TC4052BFT
IC5004 NJM2904V (1/2)
IC5004 NJM2904V (2/2)
IC5001 NJM2125F
AU5S
Q5003 DTC114EU
Q5004 DTC114EU
Q5002 FMG12
Q5001 UMD3N
D5003 DAP202U
IC5452 NJM4580V (2/4)
LPF
(From DSP encode)
Bus line to CC UNIT
Bus line to syscom. AV output
D2/2
G1/2
5001~5100:Audio
5101~5200:Visual
5201~5300:122 pin connector
5401~5500:GUIDE/Speech recognition
5501~5700:External I/F
(Bluetooth/MIC/GUIDE/DIGITAL IP-BUS/AV-BUS/EXTENSION)
AVCONA
VSELIN2
VSELIN1
IPRG
IPR
IPLG
IPL
VACCS
XMBUP
VDDS
IPPW
RX
TX
AUDIOL
AUDIOR
ACONTB
ACONTA
MMUTE
DVDL
DVDR
DVDL1
DVDR1
SW2SON
SOSELF
ASENBO
SPM
SPP
MICIN
PCONT2
AVPL
AVPR
OPTSNS
OPTON
DSPR
DSPL
MICSNS
DSPOUTR
DSPOUTL
ADCINL
AIL

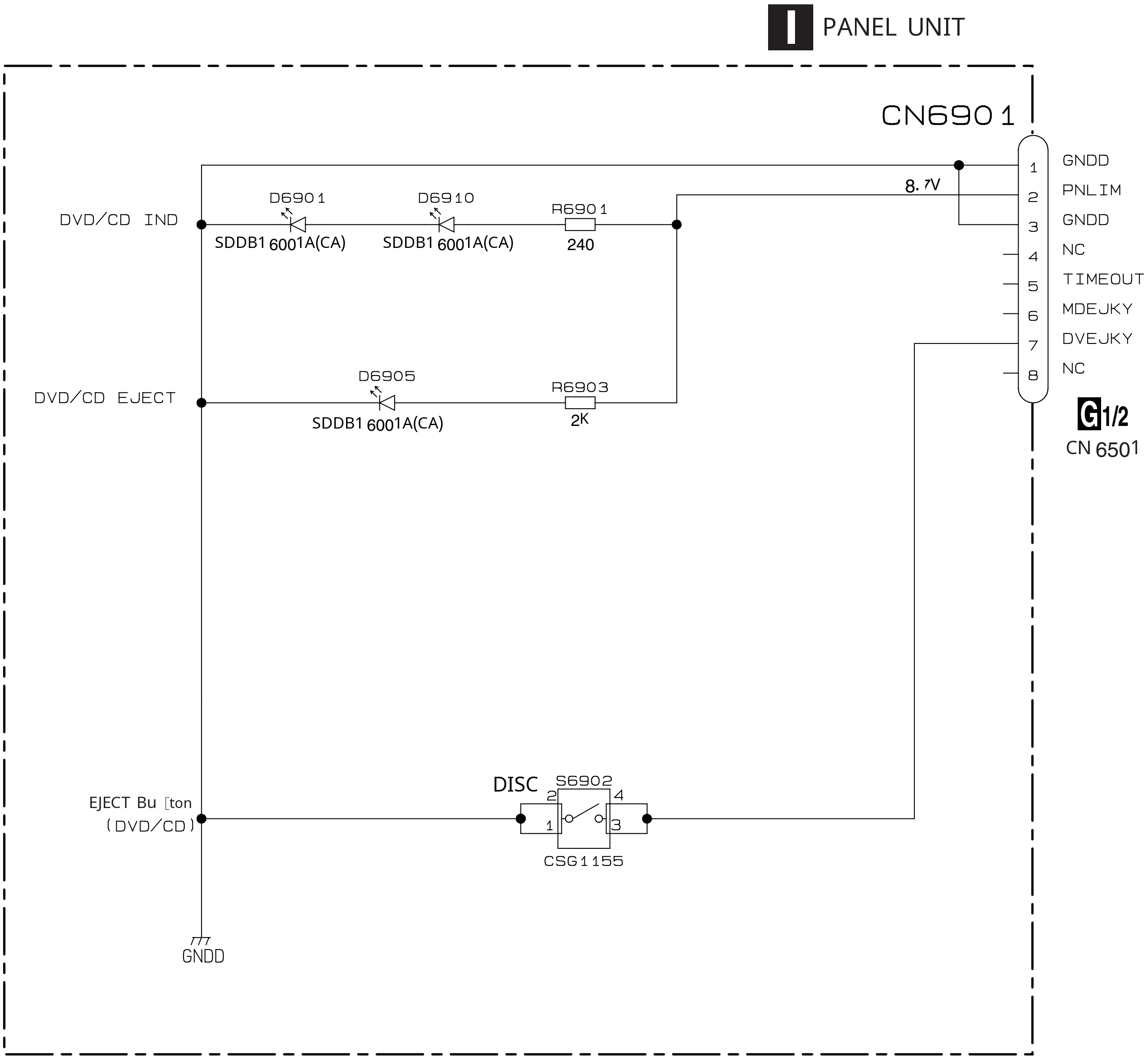
G-b 2/2

3.12 HDD PELAY PCB


H
HDD RELAY PCB
HDD
HDD ASSY
(SERVICE)
CN6801
CN6802
JUMPER1 A 1
JUMPER0 B 2
JUMPER3 C 3
JUMPER2 D 4
Polarity key = KEY(Removed) E 5
Polarity key = KEY(Removed) F 6
RESET 1 7
GND 2 8
DD7 3 9
DD8 4 10
DD6 5 11
DD9 6 12
DD5 7 13
DD10 8 14
DD4 9 15
DD11 10 16
DD3 11 17
DD12 12 18
DD2 13 19
DD13 14 20
DD1 15 21
DD14 16 22
DD0 17 23
DD15 18 24
GND 19 25
Polarity key = KEY(Removed) 20 26
DMARQ 21 27
GND 22 28
DIOWB 23 29
GND 24 30
DIORB 25 31
GND 26 32
IORDY 27 33
CSEL 28 34
DMACKB 29 35
GND 30 36
INTRQ 31 37
IOCS16B 32 38
DA1 33 39
PDIAGB 34 40
DA0 35 41
DA2 36 42
CS1FXB 37 43
CS3FXB 38 44
DASPB 39 45
GND(Moter) 40 46
5V(Logic) 41 47
5V(Motor) 42 48
GND(Logic) 43 49
Reserved 44 50
R6803
B 0R0 D
R6804
0R0
GNDD
ATA_RESETB
ATA_DD7
ATA_DD8
ATA_DD6
ATA_DD9
ATA_DD5
ATA_DD10
ATA_DD4
ATA_DD11
ATA_DD3
ATA_DD12
ATA_DD2
ATA_DD13
ATA_DD1
ATA_DD14
ATA_DD0
ATA_DD15
ATA_DMARQ
ATA_DIOWB
ATA_DIORB
ATA_IORDY
ATA_DMACKB
ATA_INT
IOCS16B
ATA_DA1
ATA_DA0
ATA_DA2
ATA_CS0B
ATA_CS1B
LOGIC5
MOTOR5
C6805
R1
L6801
C6801
R1
C6802
330/10
+5.0V(CCD5)
MS_ATA_RESETB
1 RESE
2 GND
3 DD7
4 DD8
5 DD6
6 DD9
7 DD5
8 DD10
9 DD4
10 DD11
11 DD3
12 DD12
13 DD2
14 DD13
15 DD1
16 DD14
17 DD0
18 DD15
19 GND
20 RESE
21 DMAR
22 GND
23 DIOWE
24 GND
25 DIORE
26 GND
27 IORDY
28 GND(
29 DMACK
30 GND
31 INTR
32 GND(
33 DA1
34 GND(F
35 DA0
36 DA2
37 CS1F
38 CS3F
39 DASPE
40 GND
41 GND
42 GND
43 GND
44 BUSD
45 OE#
46 3.3V
47 5V
48 5V
49 5V
50 5V


302
1 RESET
2 GND
3 DD7
4 DD8
5 DD6
6 DD9
7 DD5
8 DD10
9 DD4
10 DD11
11 DD3
12 DD12
13 DD2
14 DD13
15 DD1
16 DD14
17 DD0
18 DD15
19 GND
20 RESET(RESERVE)
21 DMARQ
22 GND
23 DIOWB
24 GND
25 DIORB
26 GND
27 IORDY
28 GND(CSEL)
29 DMACKB
30 GND
31 INTRQ
32 GND(IOCS16B)
33 DA1
34 GND(PDIAGB)
35 DA0
36 DA2
37 CS1FXB
38 CS3FXB
39 DASPB
40 GND
41 GND
42 GND
43 GND
44 BUSDIR
45 OE#
46 3.3V
47 5V
48 5V
49 5V
50 5V
GNDD
A
CN 4151
+3.3V
L6803
C6806
1
GNDD
IC6801
DIR
VCC
A1
OE
A2
B1
A3
B2
A4
B3
A5
B4
A6
B5
A7
B6
A8
B7
GND
B8
MS_ATA_DD7
MS_ATA_DD6
MS_ATA_DD5
MS_ATA_DD4
MS_ATA_DD3
MS_ATA_DD2
MS_ATA_DD1
MS_ATA_DD0
ATA_DD7
ATA_DD6
ATA_DD5
ATA_DD4
ATA_DD3
ATA_DD2
ATA_DD1
ATA_DD0
GNDD
TC7MZ245FK
+3.3V
R6813
10K
L6802
+3.3V
C6807
1
GNDD
R6810
47K
IC6802
1OE
VCC
1A1
2OE
2B4
1B1
1A2
2A4
2B3
1B2
1A3
2A3
2B2
1B3
1A4
2A2
2B1
1B4
GND
2A1
R6812
0R0
TP6801
GNDD
TC7MBL3244AFK
GNDD
ATA_DMARQ
ATA_IORDY
ATA_INT
CN6803
MS_ATA_RESETB
MS_ATA_DD7
ATA_DD8
MS_ATA_DD6
ATA_DD9
MS_ATA_DD5
ATA_DD10
MS_ATA_DD4
ATA_DD11
MS_ATA_DD3
ATA_DD12
MS_ATA_DD2
ATA_DD13
MS_ATA_DD1
ATA_DD14
MS_ATA_DD0
ATA_DD15
MS_ATA_DMARQ
ATA_DIOWB
ATA_DIORB
MS_ATA_IORDY
ATA_DMACKB
MS_ATA_INT
IOCS16B
ATA_DA1
ATA_DA0
ATA_DA2
ATA_CS0B
ATA_CS1B
1 HRST
2 DGND
3 HDD7
4 HDD8
5 HDD6
6 HDD9
7 HDD5
8 HDD10
9 HDD4
10 HDD11
11 HDD3
12 HDD12
13 HDD2
14 HDD13
15 HDD1
16 HDD14
17 HDD0
18 HDD15
19 HGND
20 NC
21 HDMARQ
22 DGND
23 DIOWR
24 DGND
25 DIORD
26 DGND
27 IORDY
28 CSEL
29 HDMACK
30 DGND
31 HINTRQ
32 HIOCS16
33 HDA1
34 NC
35 HDA0
36 HDA2
37 HCS0
38 HCS1
39 NC
40 DGND
GNDD
D1/2 CN1401
NAVI MOTHER UNIT
Consists of
NAVI MOTHER PCB
HDD RELAY PCB
A
B
C
D
E
F

3.13 PANEL UNIT


I PANEL UNIT
CN6901
1 GNDD
2 PNLIM
3 GNDD
4 NC
5 TIMEOUT
6 MDEJKY
7 DVEJKY
8 NC
8.7V
G 1/2
CN 6501
DVD/CD IND
D6901
SDDB1 6001A(CA)
D6910
SDDB1 6001A(CA)
R6901
240
DVD/CD EJECT
D6905
SDDB1 6001A(CA)
R6903
2K
EJECT Bu [ton
(DVD/CD)
DISC
S6902
2
4
1
3
CSG1155
GNDD

A

B

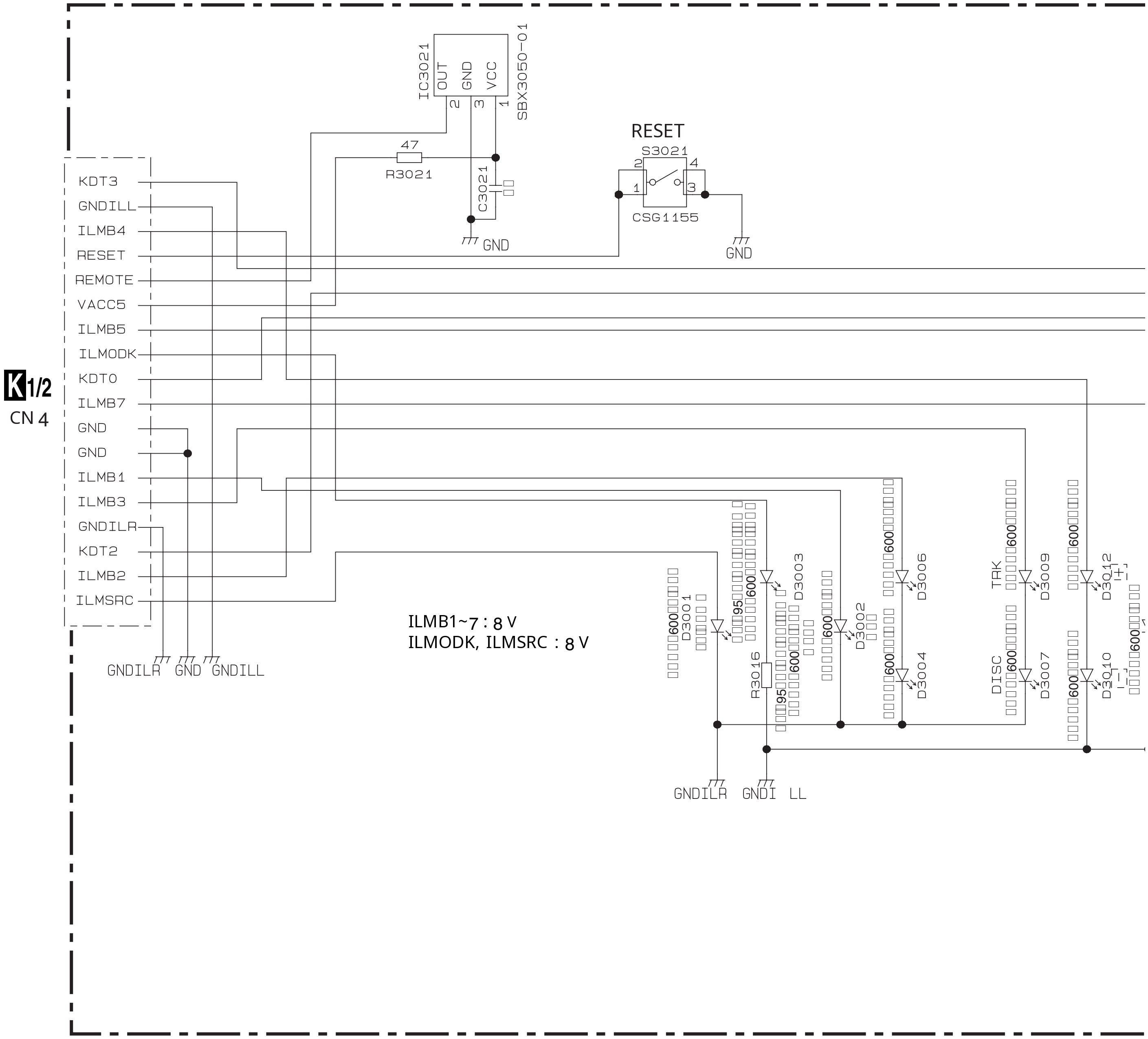
C

D

E

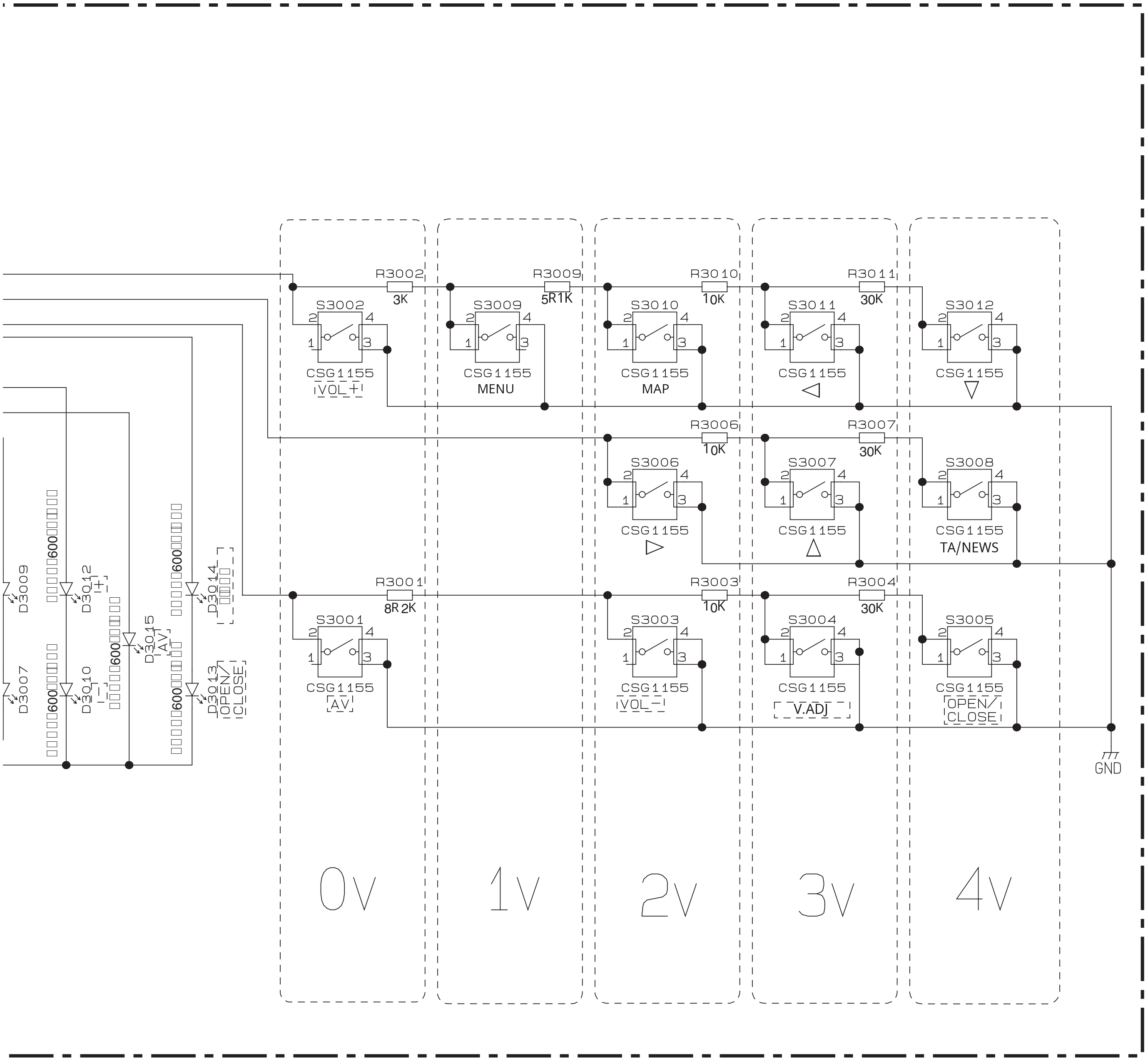
F

3.14 KEYBOARD UNIT


IC3021
OUT
GND
VCC
2
3
1
SBX3050-01
47
R3021
C3021
GND
RESET
S3021
2
4
1
3
CSG1155
GND
K 1/2
CN 4
KDT3
GNDILL
ILMB4
RESET
REMOTE
VACC5
ILMB5
ILMODK
KDT0
ILMB7
GND
GND
ILMB1
ILMB3
GNDILR
KDT2
ILMB2
ILMSRC
GNDILR
GND
GNDILL
ILMB1~7 : 8 V
ILMODK, ILMSRC : 8 V
D3001
600
95
R3016
D3003
600
D3002
600
D3006
D3004
600
TRK
D3009
DISC
D3007
D3012
(+)
D3010
(–)
GNDILR
GNDILL

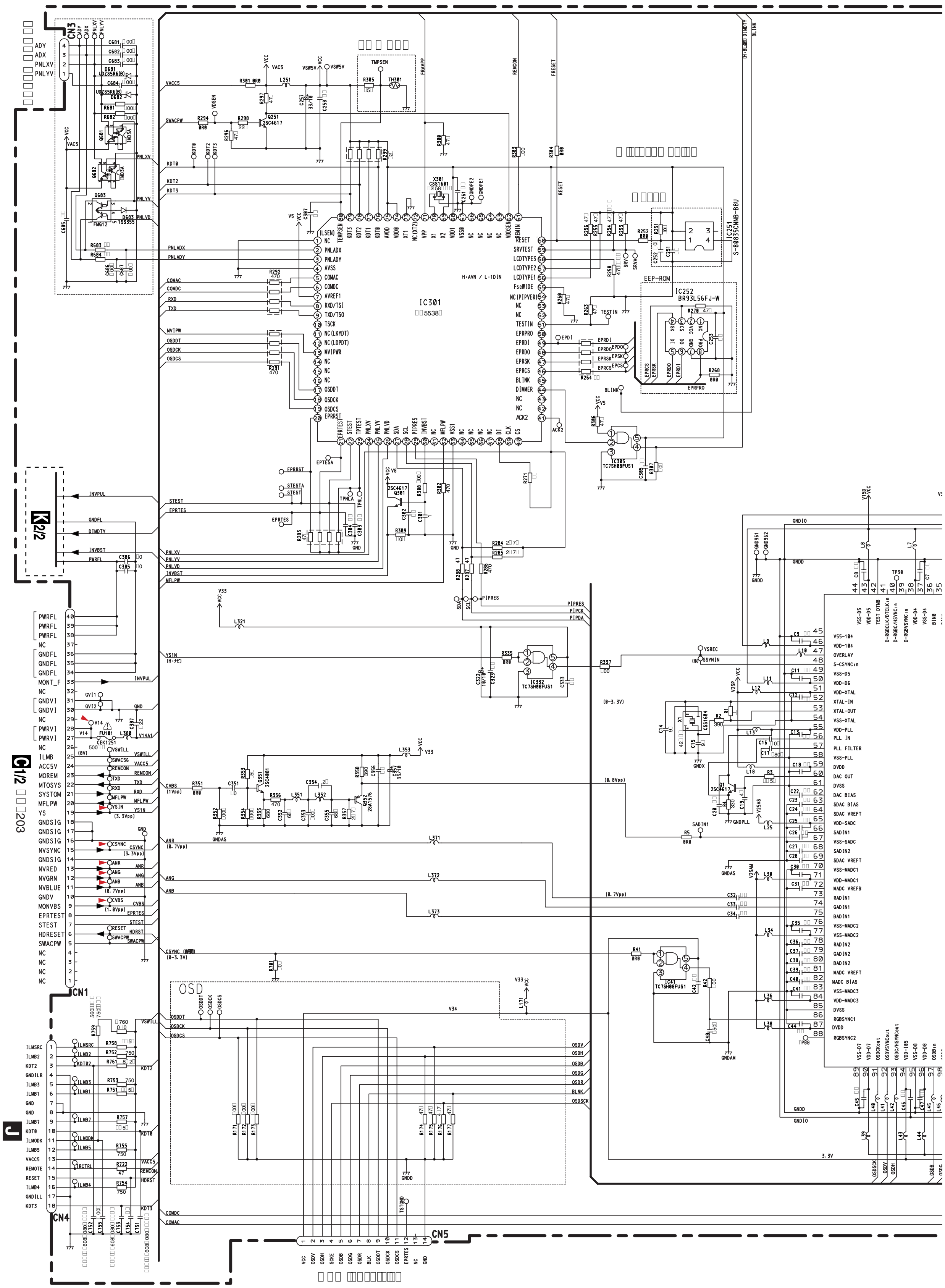
J

J KEYBOARD UNIT


R3002
3K
R3009
5R1K
R3010
10K
R3011
30K
S3002
S3009
S3010
S3011
S3012
CSG1155
VOL+
MENU
MAP
◁
▽
R3006
10K
R3007
30K
S3006
S3007
S3008
▷
△
TA/NEWS
R3001
8R2K
R3003
10K
R3004
30K
S3001
S3003
S3004
S3005
AV
VOL−
V.ADJ
OPEN/CLOSE
GND
0V
1V
2V
3V
4V
D3009
D3007
D3012
+
D3010
−
D3015
AV
D3014
D3013
OPEN/CLOSE
600
1
2
3
4

3.15 MONITOR UNIT(MONITOR)(GUIDE PAGE)

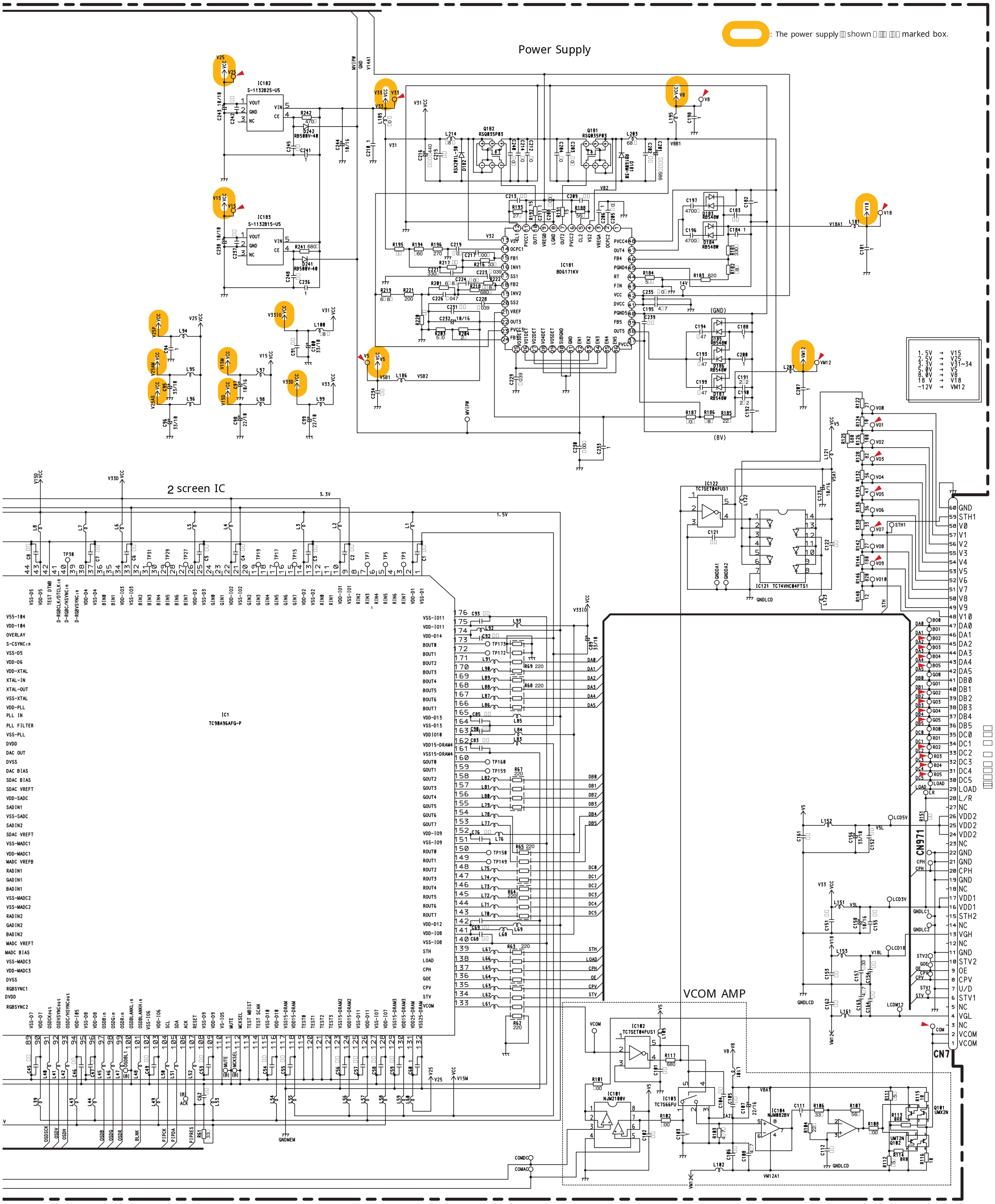
K-a 1/2


CN3
ADY
ADX
PNLXV
PNLYV
IC301
H:AVN / L:1DIN
IC251
S-80835CNNB-B8U
EEP-ROM
IC252
BR93L56FJ-W
IC305
TC7SH08FUS1
IC302
TC7SH08FUS1
IC41
TC7SH08FUS1
Q251
2SC4617
Q301
2SC4617
Q351
2SC4081
Q352
2SA1576
Q1
2SC4617
X301
CSS1601
TMPSEN
TH301
K 2/2
C 1/2
J
CN1
CN4
CN5
OSD
PWRFL
GNDFL
MONT_F
GNDVI
PWRVI
ILMB
ACC5V
MOREM
MTOSYS
SYSTOM
MFLPW
YS
GNDSIG
NVSYNC
NVRED
NVGRN
NVBLUE
GNDV
MONVBS
EPRTEST
STEST
HDRESET
SWACPW
NC
ILMSRC
ILMB2
KDT2
GNDILR
ILMB3
ILMB1
GND
ILMB7
KDT0
ILMODK
ILMB5
VACC5
REMOTE
RESET
ILMB4
GNDILL
KDT3
VCC
OSDV
OSDH
SCKE
OSDB
OSDG
OSDR
BLK
OSDDT
OSDCK
OSDCS
EPRTES
NC
GND
VSS-IO4
VDD-IO4
OVERLAY
S-CSYNCin
VSS-D5
VDD-D6
VDD-XTAL
XTAL-IN
XTAL-OUT
VSS-XTAL
VDD-PLL
PLL IN
PLL FILTER
VSS-PLL
DVDD
DAC OUT
DVSS
DAC BIAS
SDAC BIAS
SDAC VREFT
VDD-SADC
SADIN1
VSS-SADC
SADIN2
SDAC VREFT
VSS-MADC1
VDD-MADC1
MADC VREFB
RADIN1
GADIN1
BADIN1
VSS-MADC2
VSS-MADC2
RADIN2
GADIN2
BADIN2
MADC VREFT
MADC BIAS
VSS-MADC3
VDD-MADC3
DVSS
RGBSYNC1
DVDD
RGBSYNC2

K 1/2

K-b 1/2

K 1/2 MONITOR UNIT(MONITOR)


: The power supply is shown with the marked box.
Power Supply
IC182 S-1132B25-U5
IC183 S-1132B15-U5
IC181 BD6171KV
Q182 RSQ035P03
Q181 RSQ035P03
1.5V → V15
2.5V → V25
3.3V → V31~34
5.0V → V5
8.0V → V8
18 V → V18
−12V → VM12
2 screen IC
IC1 TC90A96AFG-P
IC122 TC7SET04FUS1
IC121 TC74VHC04FTS1
VCOM AMP
IC102 TC7SET04FUS1
IC101 NJM2100V
IC103 TC7S66FU
IC104 NJM082BV
Q101 UMX2N
Q102 UMT2N
CN971
CN7
60 GND
59 STH1
58 V0
57 V1
56 V2
55 V3
54 V4
53 V5
52 V6
51 V7
50 V8
49 V9
48 V10
47 DA0
46 DA1
45 DA2
44 DA3
43 DA4
42 DA5
41 DB0
40 DB1
39 DB2
38 DB3
37 DB4
36 DB5
35 DC0
34 DC1
33 DC2
32 DC3
31 DC4
30 DC5
29 LOAD
28 L/R
27 NC
26 VDD2
25 VDD2
24 VDD2
23 NC
22 GND
21 GND
20 CPH
19 GND
18 NC
17 VDD1
16 VDD1
15 STH2
14 NC
13 VGH
12 NC
11 GND
10 STV2
9 OE
8 CPV
7 U/D
6 STV1
5 NC
4 VGL
3 NC
2 VCOM
1 VCOM
(GND)
(8V)

A

1/2 K-b

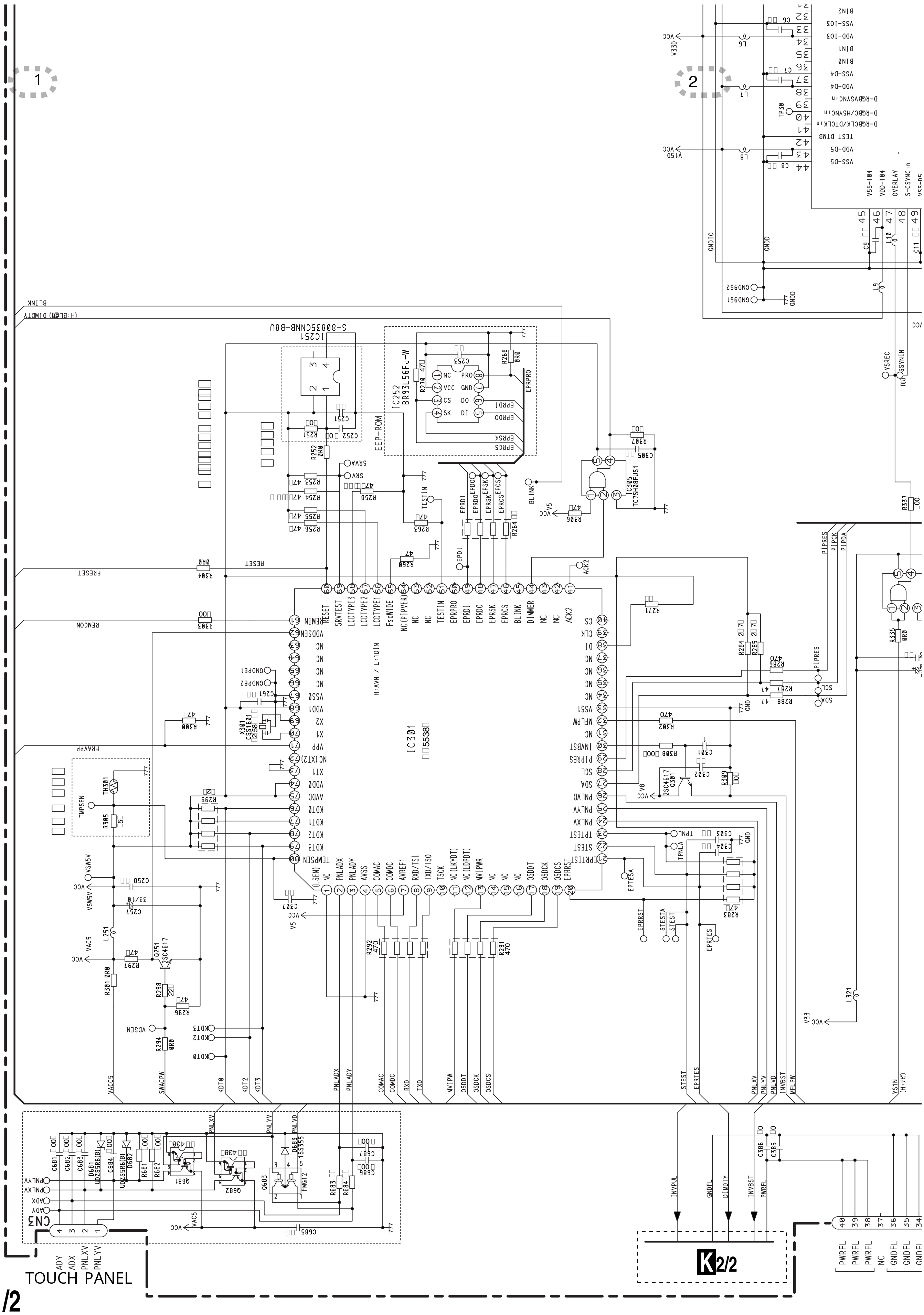
B

C

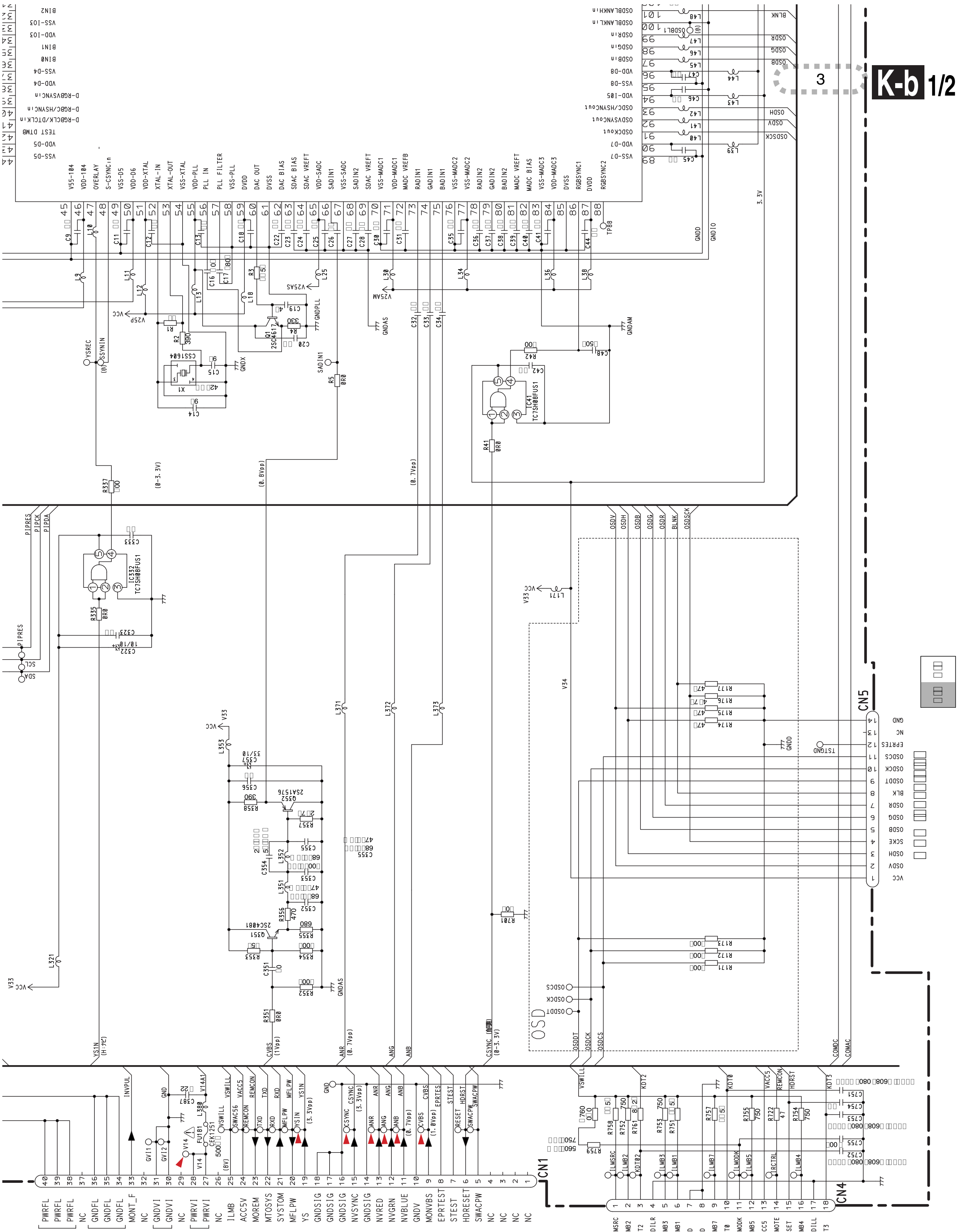
D

E

F


1
2
IC301
5538
IC251
S-80835CNNB-B8U
IC252
BR93L56FJ-W
EEP-ROM
IC305
TC7SH08FUS1
X301
TH301
TMPSEN
Q251
2SC4617
Q301
2SC4617
Q681
Q682
Q683
FMG12
D681
UDZS5R6(B)
D682
D683
1SS355
RESET
SRVTEST
LCDTYPE3
LCDTYPE2
LCDTYPE1
FscWIDE
NC(PIPVER)
TESTIN
EPRPRO
EPRDI
EPRDO
EPRSK
EPRCS
BLINK
DIMMER
ACK2
REMIN
VDDSEN
VSS0
VDD1
X2
X1
VPP
NC(XT2)
XT1
VDD0
AVDD
KDT0
KDT1
KDT2
KDT3
TEMPSEN
CS
CLK
DI
VSS1
MFLPW
INVBST
PIPRES
SCL
SDA
PNLVD
PNLVV
PNLXV
TPTEST
STEST
EPRRST
(LSEN)
PNLADX
PNLADY
AVSS
COMAC
COMDC
AVREF1
RXD/TSI
TXD/TSO
TSCK
NC(LKYDT)
NC(LDPDT)
MVIPWR
OSDDT
OSDCK
OSDCS
H:AVN / L:DIN
FRESET
REMCON
FRAVPP
(H:BL切) DIMOTY
SRVA
SRV
GNDPE1
GNDPE2
VSW5V
VCC
VAC5
V5
VDSEN
VACC5
SWACPW
TPNL
TPNLA
EPTESA
STESTA
EPRTES
V33
Y15D
V33D
GND961
GND962
GNDD
GNDIO
VSREC
SSYNIN
YSIN
(H:RC)
PIPRES
PIPCK
PIPDA
VSS-IO3
VDD-IO3
BIN2
BIN1
BIN0
VSS-D4
VDD-D4
D-RGBVSYNCin
D-RGBC/HSYNCin
D-RGBCLK/DTCLKin
TEST DTMB
VDD-D5
VSS-D5
VSS-IO4
VDD-IO4
OVERLAY
S-CSYNCin
INVPUL
GNDFL
DIMDTY
INVBST
PWRFL
NC
CN3
PNLYV
PNLXV
ADX
ADY
TOUCH PANEL
K2/2

K-a 1/2


K-b 1/2
3
CN5
GND
NC
EPRTES
OSDCS
OSDCK
OSDDT
BLK
OSDR
OSDG
OSDB
SCKE
OSDH
OSDV
VCC
TSTGND
GNDD
R177 47
R176 4.7
R175 47
R174 47
R173
R172
R171
OSDCS
OSDCK
OSDDT
OSD
V34
VCC V33 L171
IC41 TC7SH08FUS1
R41 0R0
R42
C42
C48
GNDAM
L34
L36
L38
GNDD
GNDIO
3.3V
TP88
BLNK
OSDR
OSDG
OSDB
OSDH
OSDV
OSDSCK
L39
L40
L41
L42
L43
L44
L45
L46
L47
L48
C45
C46
C47
VSS-D7
VDD-D7
OSDCKout
OSDVSYNCout
OSDC/HSYNCout
VDD-IO5
VSS-D8
VDD-D8
OSDBin
OSDGin
OSDRin
OSDBLANKLin
OSDBLANKHin
RGBSYNC2
DVDD
RGBSYNC1
DVSS
VDD-MADC3
VSS-MADC3
MADC BIAS
MADC VREFT
BADIN2
GADIN2
RADIN2
VSS-MADC2
VDD-MADC2
BADIN1
GADIN1
RADIN1
MADC VREFB
VDD-MADC1
VSS-MADC1
SDAC VREFT
SADIN2
VSS-SADC
SADIN1
VDD-SADC
SDAC VREFT
SDAC BIAS
DAC BIAS
DVSS
DAC OUT
DVDD
VSS-PLL
PLL FILTER
PLL IN
VDD-PLL
VSS-XTAL
XTAL-OUT
XTAL-IN
VDD-XTAL
VDD-D6
VSS-D5
S-CSYNCin
OVERLAY
VDD-IO4
VSS-IO4
VSS-D5
VDD-D5
TEST DTMB
D-RGBCLK/DTCLKin
D-RGBC/HSYNCin
D-RGBVSYNCin
VDD-D4
VSS-D4
BIN0
BIN1
VDD-IO3
VSS-IO3
BIN2
V25AS
V25AM
V25P
VCC
GNDPLL
GNDAS
GNDX
Q1 2SC4617
R1
R2 390
R3
R4 330
R5 0R0
C19
C20
C14
C15
X1 CSS1604
SADIN1
VSREC
SSYNIN
(0-3.3V)
(0.8Vpp)
(0.7Vpp)
R337
PIPRES
PIPCK
PIPDA
SCL
SDA
IC332 TC7SH08FUS1
C333
R335 0R0
C323
C322 10/10
L321
VCC V33
L353
C357 33/10
C356
R358 390
Q352 2SA1576
R357
C355
C354
L352
C353
L351
C352
R356 470
Q351 2SC4081
R355 680
R353
R354
C351
R352
GNDAS
R351 0R0
L371
L372
L373
R701
YSIN
CVBS (1Vpp)
ANR (0.7Vpp)
ANG
ANB
CSYNC (0-3.3V)
OSDDT
OSDCK
OSDCS
COMDC
COMAC
CN1
PWRFL
PWRFL
PWRFL
NC
GNDFL
GNDFL
GNDFL
MONT_F
NC
GNDVI
GNDVI
NC
PWRVI
PWRVI
NC
ILMB
ACC5V
MOREM
MTOSYS
SYSTOM
MFLPW
YS
GNDSIG
GNDSIG
NVSYNC
GNDSIG
NVRED
NVGRN
NVBLUE
GNDV
MONVBS
EPRTEST
STEST
HDRESET
SWACPW
NC
NC
NC
NC
INVPUL
GND
C387
V14A1
L380
FU181 CEK1251
V14
GVI1
GVI2
VSWILL
VACC5
REMCON
TXD
RXD
MFLPW
YSIN (3.3Vpp)
CSYNC (3.3Vpp)
CVBS (1.0Vpp)
EPRTST
HDRST
SWACPW
RESET
CN4
ILMSRC
ILMB2
KDT2
GNDILR
ILMB3
ILMB1
GND
GND
ILMB7
KDT0
ILMODK
ILMB5
VACC5
REMOTE
RESET
ILMB4
GNDILL
KDT3
R758
R752 750
R761
R753 750
R751
R757
R755 750
R722 47
R754 750
R759 560
C751
C754
C753
C755
C752
0808 1608
K-a 1/2
J
C 1/2 203

A

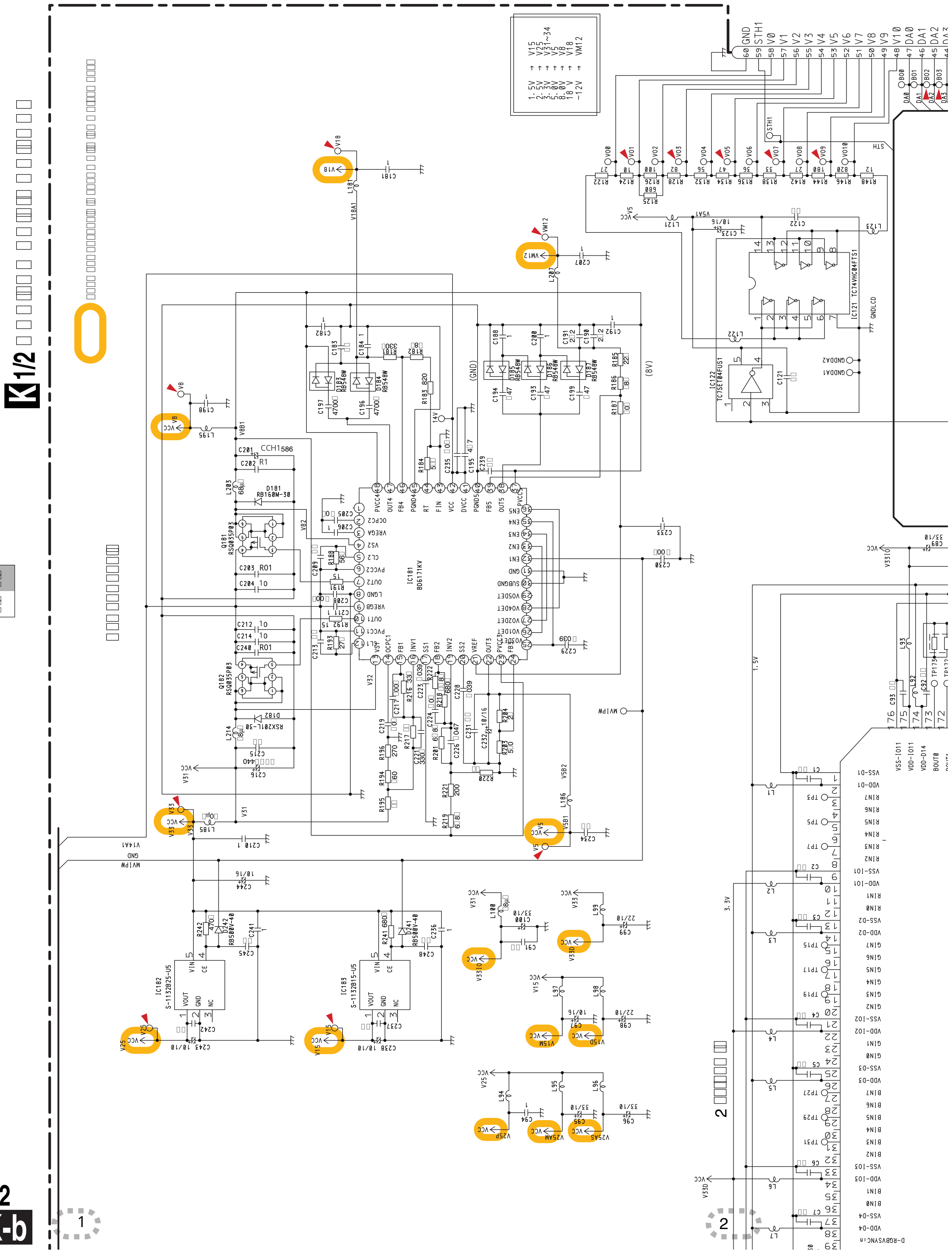
B

C

D

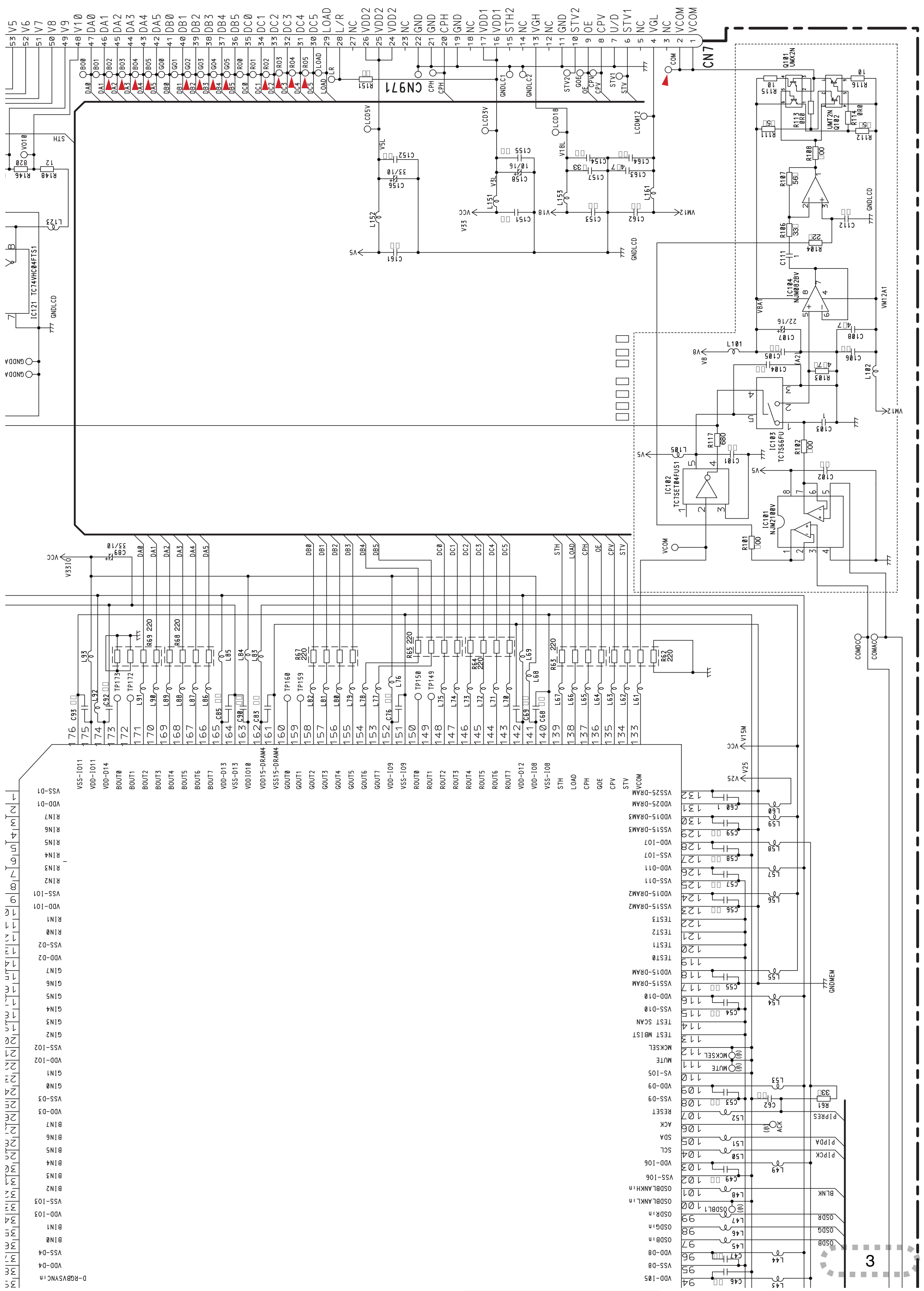
E

F

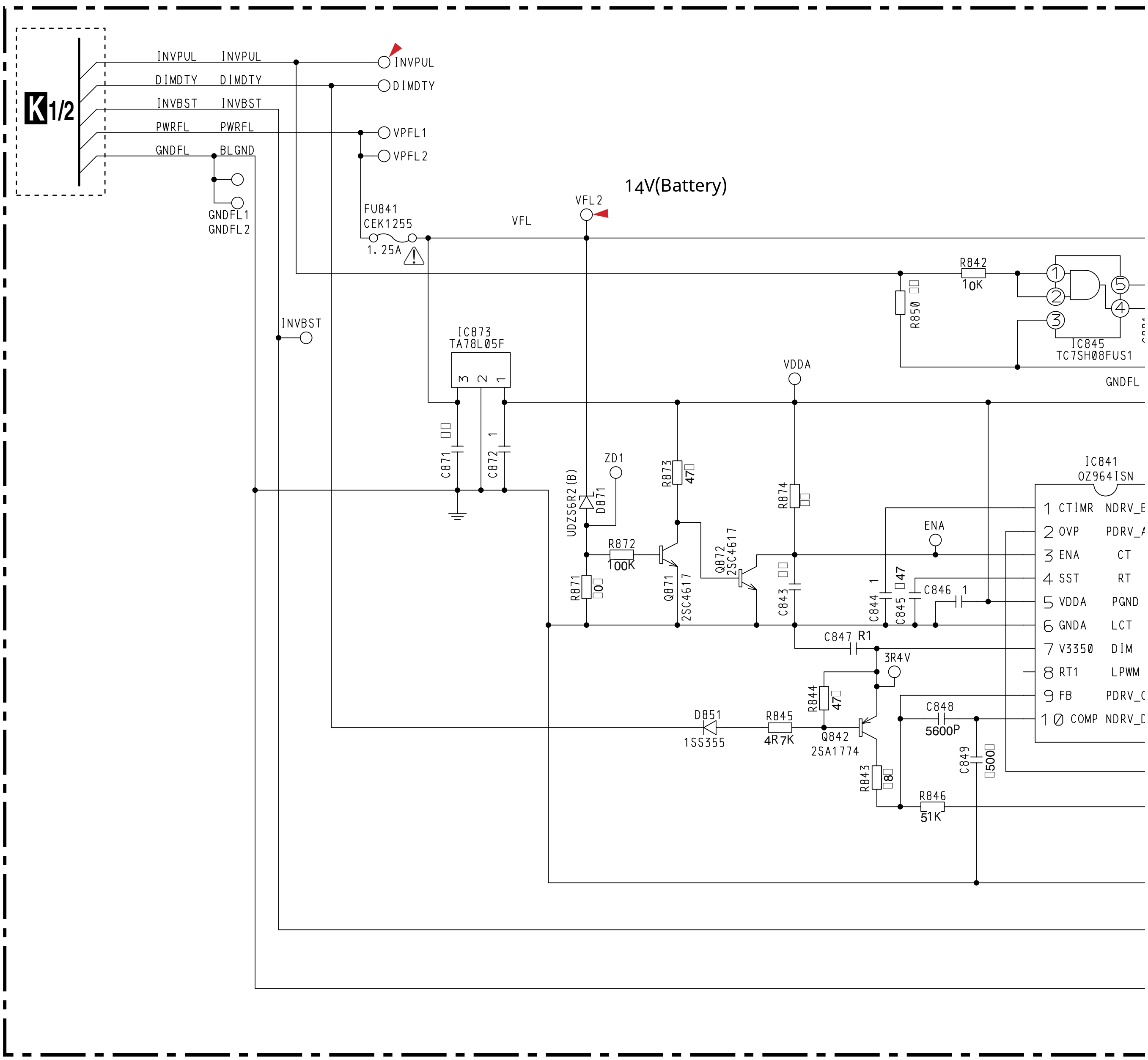

K 1/2
1.5V → V15
2.5V → V25
3.3V → V31~34
5.0V → V5
8.0V → V8
18V → V18
-12V → VM12
IC181
BD6171KV
IC182
S-1132B25-U5
IC183
S-1132B15-U5
IC121 TC74VHC04FTS1
IC122 TC7SET04FUS1
Q181 RSQ035P03
Q182 RSQ035P03
D181 RB160M-30
D182 RSX201L-30
D183 RB548W
D184 RB548W
D185 RB548W
D186 RB548W
D187 RB548W
D241 RB500V-40
D242 RB500V-40
V18
VM12
V8
V33
V5
V25
V15
V31
V33D
V331D
V15M
V15D
V25P
V25AM
V25AS
MVIPW
GND
V14A1
V5A1
STH1
STH
GNDDA1
GNDDA2
GNDLCD
60 GND
59 STH1
58 V0
57 V1
56 V2
55 V3
54 V4
53 V5
52 V6
51 V7
50 V8
49 V9
48 V10
47 DA0
46 DA1
45 DA2
1.5V
3.3V
2
1

1/2
K-b

LCD Module

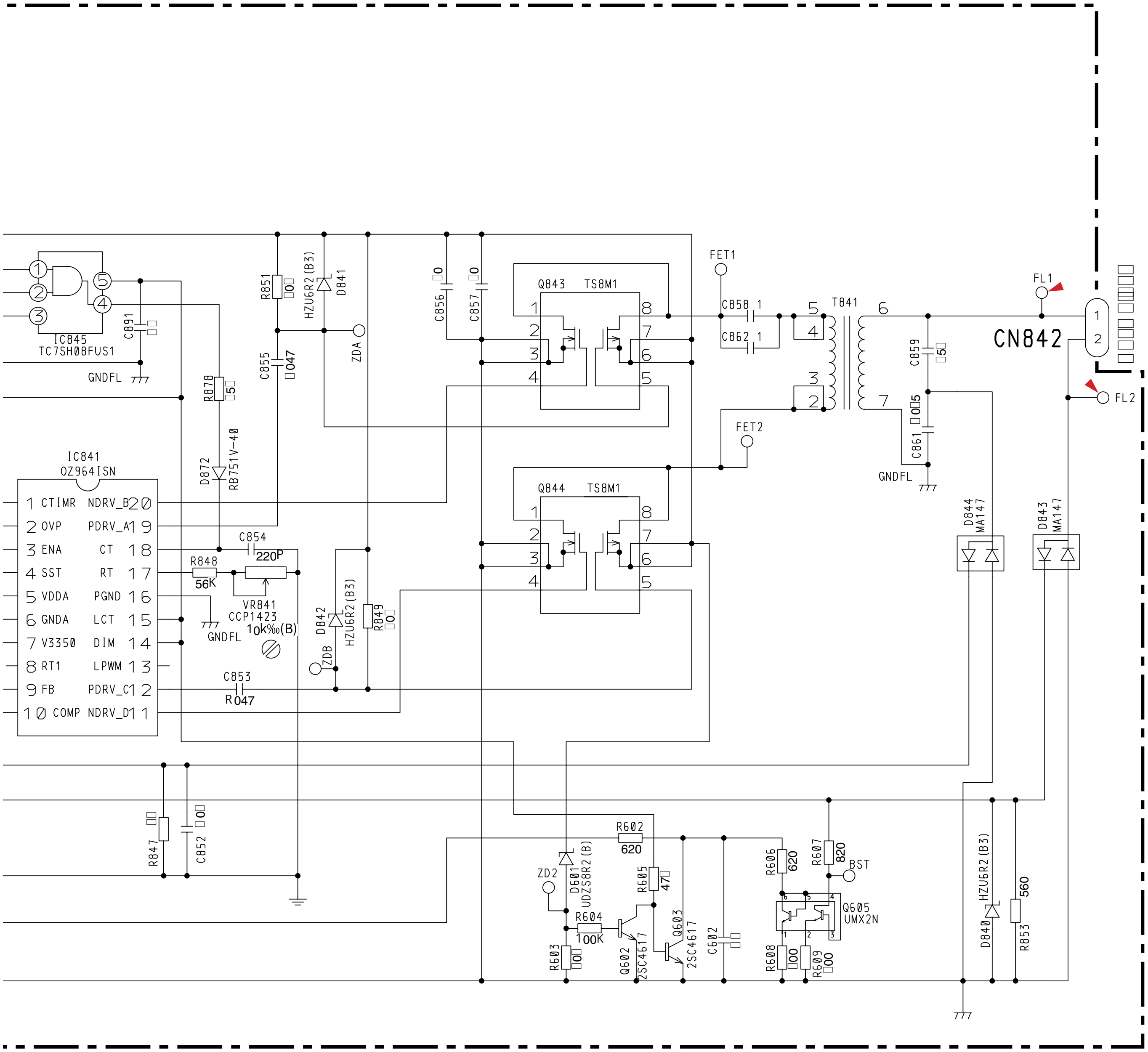

CN7
CN971
VCOM
VGL
STV1
U/D
CPV
OE
STV2
GND
NC
VGH
STH2
VDD1
CPH
LOAD
L/R
VDD2
DA0
DA1
DA2
DA3
DA4
DA5
DB0
DB1
DB2
DB3
DB4
DB5
DC0
DC1
DC2
DC3
DC4
DC5
V5
V6
V7
V8
V9
V10
R151
LCD5V
LCD3V
LCD18
LCDM12
C151
C152
C153
C154
C155
C156
C157
C158
C161
C162
C163
C164
L151
L152
L153
L161
V5L
V3L
V18L
V33
VCC
V18
VM12
V5
GNDLCD
Q101 UMX2N
Q102 UMT2N
R111
R112
R113
R114
R115
R116
R104
R106
R107
R108
C111
C112
IC104 NJM082BV
V8A1
VM12A1
C105
C106
C107
C108
L101
L102
V8
C104
R103
IC103 TC7S66FU
C103
R102
R117
C101
L105
IC102 TC7SET04FUS1
IC101 NJM2100V
C102
R101
COMDC
COMAC
IC121 TC74VHC04FTS1
L123
R146
R148
V010
STH
GNDDA
C89
V3310
R69 220
R68 220
R67 220
R65 220
R64 220
R63 220
R62 220
TP173
TP172
TP160
TP159
TP150
TP149
C93
C92
C85
C90
C83
C76
C69
C68
V15M
V25
GNDMEM
PIPRES
PIPDA
PIPCK
BLNK
OSDR
OSDG
OSDB
MCKSEL
MUTE
ACK
OSDBL1
R61 33
C62
D-RGBVSYNC.in

3.16 MONITOR UNIT(INVERTER)

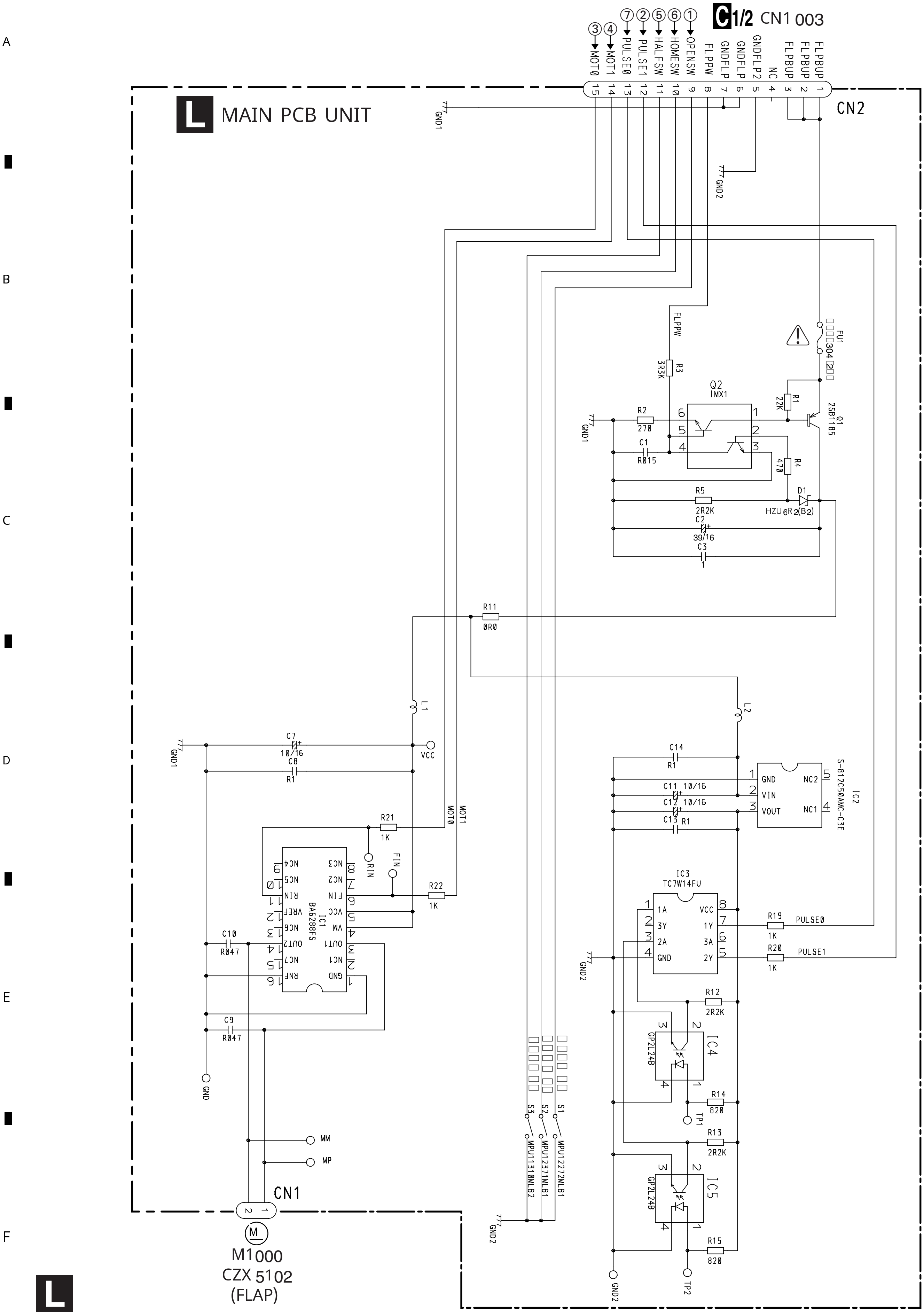

K1/2
INVPUL
DIMDTY
INVBST
PWRFL
GNDFL
BLGND
INVPUL
DIMDTY
VPFL1
VPFL2
GNDFL1
GNDFL2
14V(Battery)
VFL2
VFL
FU841
CEK1255
1.25A
R842
10K
R850 □□
IC845
TC7SH08FUS1
GNDFL
INVBST
IC873
TA78L05F
VDDA
C871 □□
C872 1
ZD1
UDZS6R2(B)
D871
R873 47□
R874 □□
R872
100K
R871 □□
Q871
2SC4617
Q872
2SC4617
C843 □□
ENA
C844 1
C845 □47
C846 1
C847 R1
3R4V
R844 47□
D851
1SS355
R845
4R7K
Q842
2SA1774
R843 8□
C848
5600P
C849 □500□
R846
51K
IC841
OZ9641SN
1 CTIMR
2 OVP
3 ENA
4 SST
5 VDDA
6 GNDA
7 V3350
8 RT1
9 FB
10 COMP
NDRV_E
PDRV_A
CT
RT
PGND
LCT
DIM
LPWM
PDRV_C
NDRV_D

K2/2

K 2/2 MONITOR UNIT(INVERTER)


IC845
TC7SH08FUS1
GNDFL
C891
R851
HZU6R2(B3)
D841
ZDA
C855
047
R878
D872
RB751V-40
C856
C857
Q843 TS8M1
Q844 TS8M1
FET1
FET2
C858 1
C862 1
T841
C859
C861
GNDFL
FL1
FL2
CN842
D844 MA147
D843 MA147
IC841
OZ964ISN
1 CTIMR NDRV_B 20
2 OVP PDRV_A 19
3 ENA CT 18
4 SST RT 17
5 VDDA PGND 16
6 GNDA LCT 15
7 V3350 DIM 14
8 RT1 LPWM 13
9 FB PDRV_C 12
10 COMP NDRV_D 11
C854 220P
R848 56K
VR841 CCP1423 10k(B)
GNDFL
C853 R047
D842 HZU6R2(B3)
ZDB
R849
R847
C852
R602 620
ZD2
D601 UDZS8R2(B)
R605 47
R604 100K
R603
Q602 2SC4617
Q603 2SC4617
C602
R606 620
R607 820
BST
Q605 UMX2N
R608
R609
D840 HZU6R2(B3)
R853 560

3.17 MAIN PCB UNIT



A
B
C
D
E
F
C 1/2 CN1003
③ MOT0
④ MOT1
⑦ PULSE0
② PULSE1
⑤ HALFSW
⑥ HOMESW
① OPENSW
FLPPW
GNDFLP
GNDFLP
GNDFLP2
NC
FLPBUP
FLPBUP
FLPBUP
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
CN2
L MAIN PCB UNIT
GND1
GND2
FLPPW
R3
3R3K
FU1
304 2
Q2
IMX1
R1
22K
Q1
2SB1185
R2
270
C1
R015
R4
470
R5
2R2K
D1
HZU6R2(B2)
C2
39/16
C3
1
R11
0R0
L1
L2
C7
10/16
C8
R1
VCC
C14
R1
C11 10/16
C12 10/16
C13 R1
IC2
S-812C50AMC-C3E
GND
VIN
VOUT
NC2
NC1
R21
1K
RIN
FIN
MOT0
MOT1
R22
1K
IC1
BA6288FS
NC4
NC5
RIN
VREF
NC6
OUT2
NC7
RNF
NC3
NC2
FIN
VCC
VM
OUT1
NC1
GND
C10
R047
C9
R047
GND
IC3
TC7W14FU
1A
3Y
2A
GND
VCC
1Y
3A
2Y
R19
1K
PULSE0
R20
1K
PULSE1
R12
2R2K
IC4
GP2L24B
R14
820
TP1
R13
2R2K
IC5
GP2L24B
R15
820
TP2
GND2
S1
S2
S3
MPU12272MLB1
MPU12371MLB1
MPU11310MLB2
MM
MP
CN1
M1000
CZX5102
(FLAP)
L

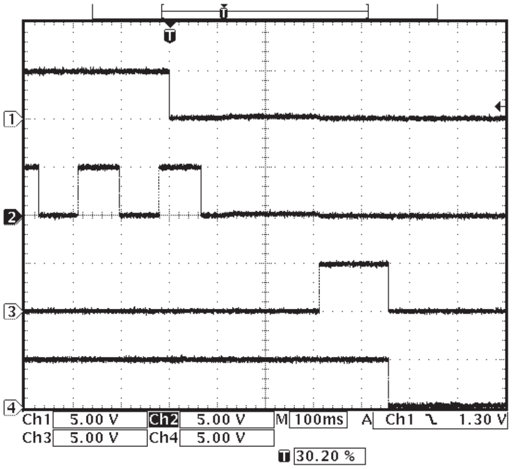
● Wave form

Note:The encircled numbers denote measuring points in the circuit diagram.

• FULL OPEN

① CH1 : OPENSW ③ CH3 : MOT0

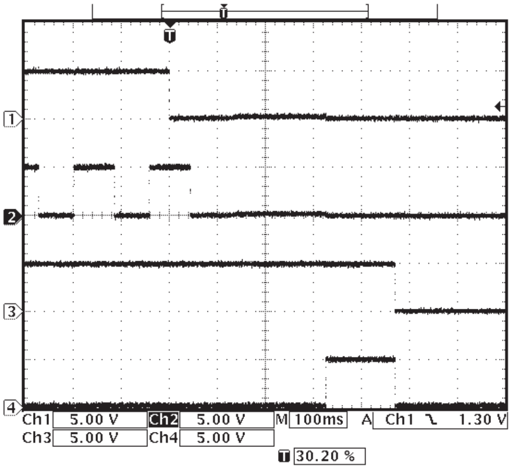
② CH2 : PULSE1 ④ CH4 : MOT1



• CLOSE

⑥ CH1 : HOMESW ③ CH3 : MOT0

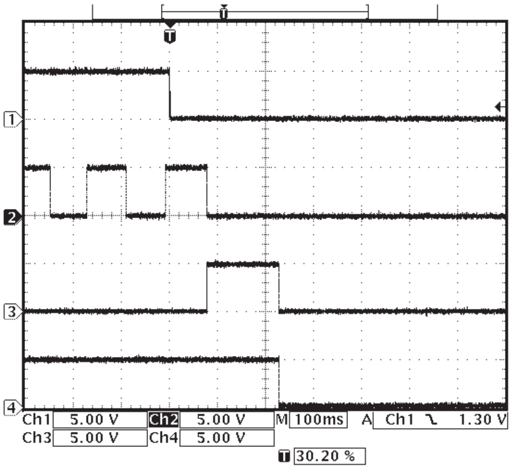
② CH2 : PULSE1 ④ CH4 : MOT1



• HALF OPEN

⑤ CH1 : HALFSW ③ CH3 : MOT0

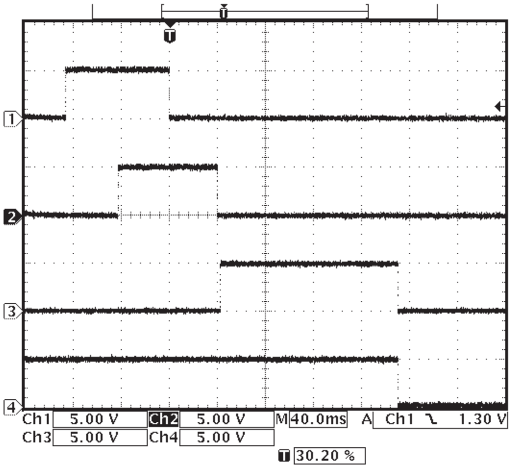
② CH2 : PULSE1 ④ CH4 : MOT1



• ANGLE

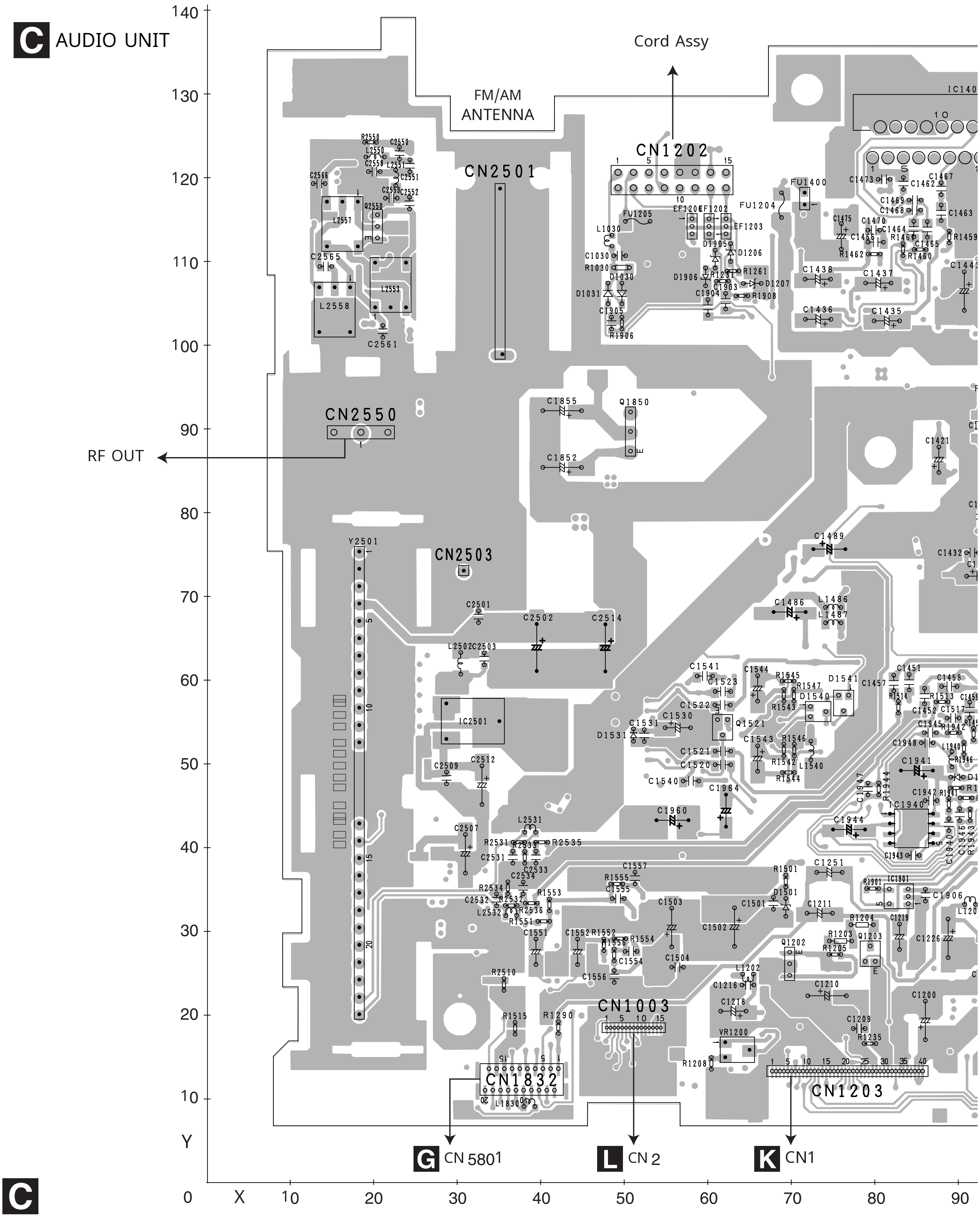
⑦ CH1 : PULSE0 ③ CH3 : MOT0

② CH2 : PULSE1 ④ CH4 : MOT1



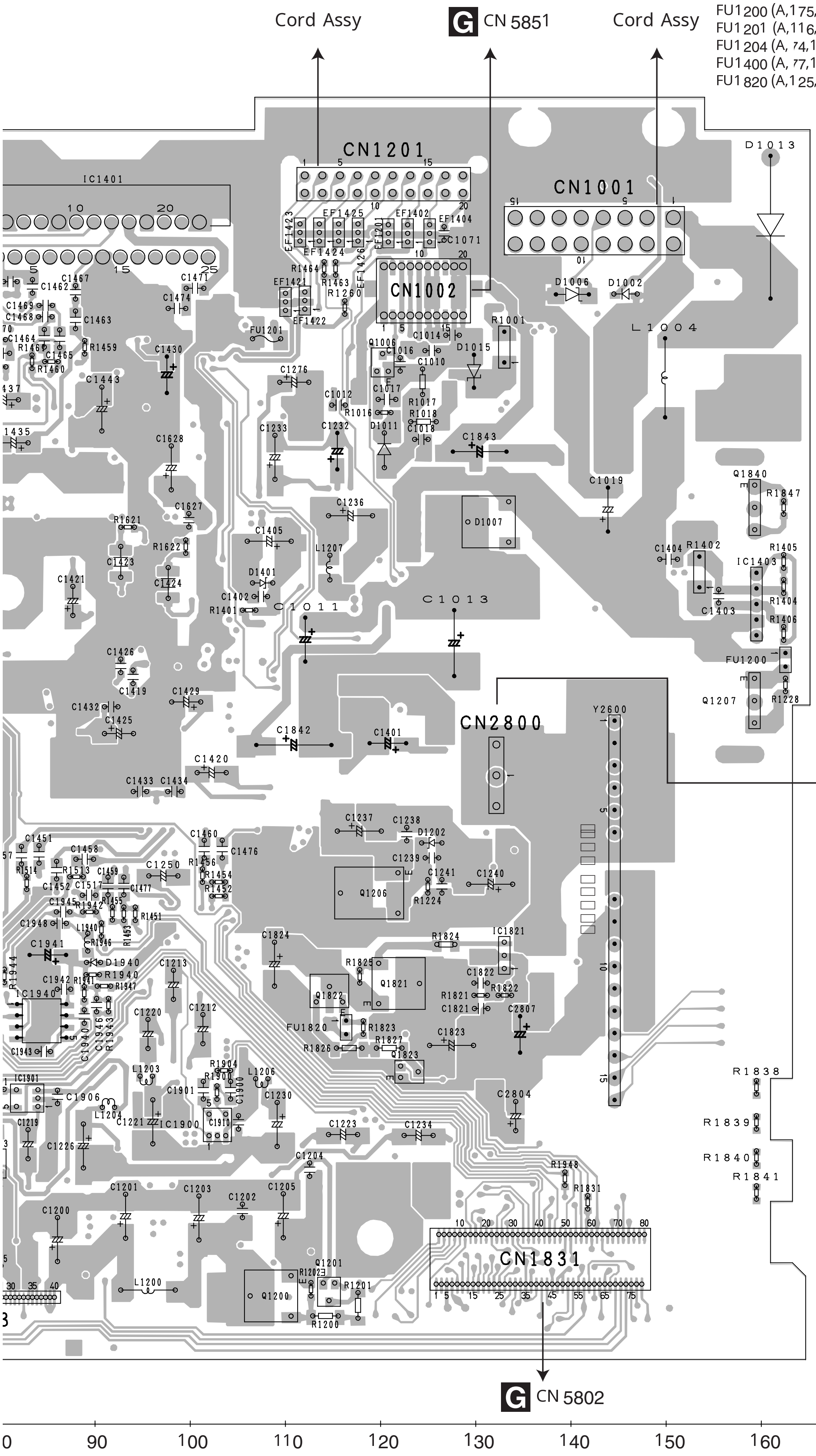
4. PCB CONNECTION DIAGRAM

4.1 AUDIO UNIT


C AUDIO UNIT
Cord Assy
FM/AM ANTENNA
CN2501
CN1202
CN2550
RF OUT
CN2503
Y2501
IC2501
CN1003
CN1832
CN1203
IC1940
IC1901
Q1850
Q1521
Q1202
Q1203
Q2550
L2557
L2553
L2558
FU1400
FU1204
FU1205
VR1200
G CN 5801
L CN 2
K CN1
Y
X
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140

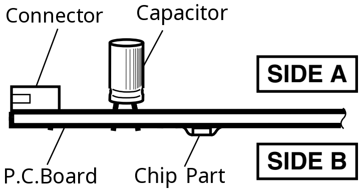
FU1200 (A,175,37) Fuse 2.5 A CEK1 285
FU1201 (A,116,123) Fuse 3.15 A CEK1 259
FU1204 (A,74,126) Fuse 3.15 A CEK1 259
FU1400 (A,77,127) Fuse 3 A CEK1 286
FU1820 (A,125,45) Fuse 750 mA(EW 5) CEK1 279

SIDE A

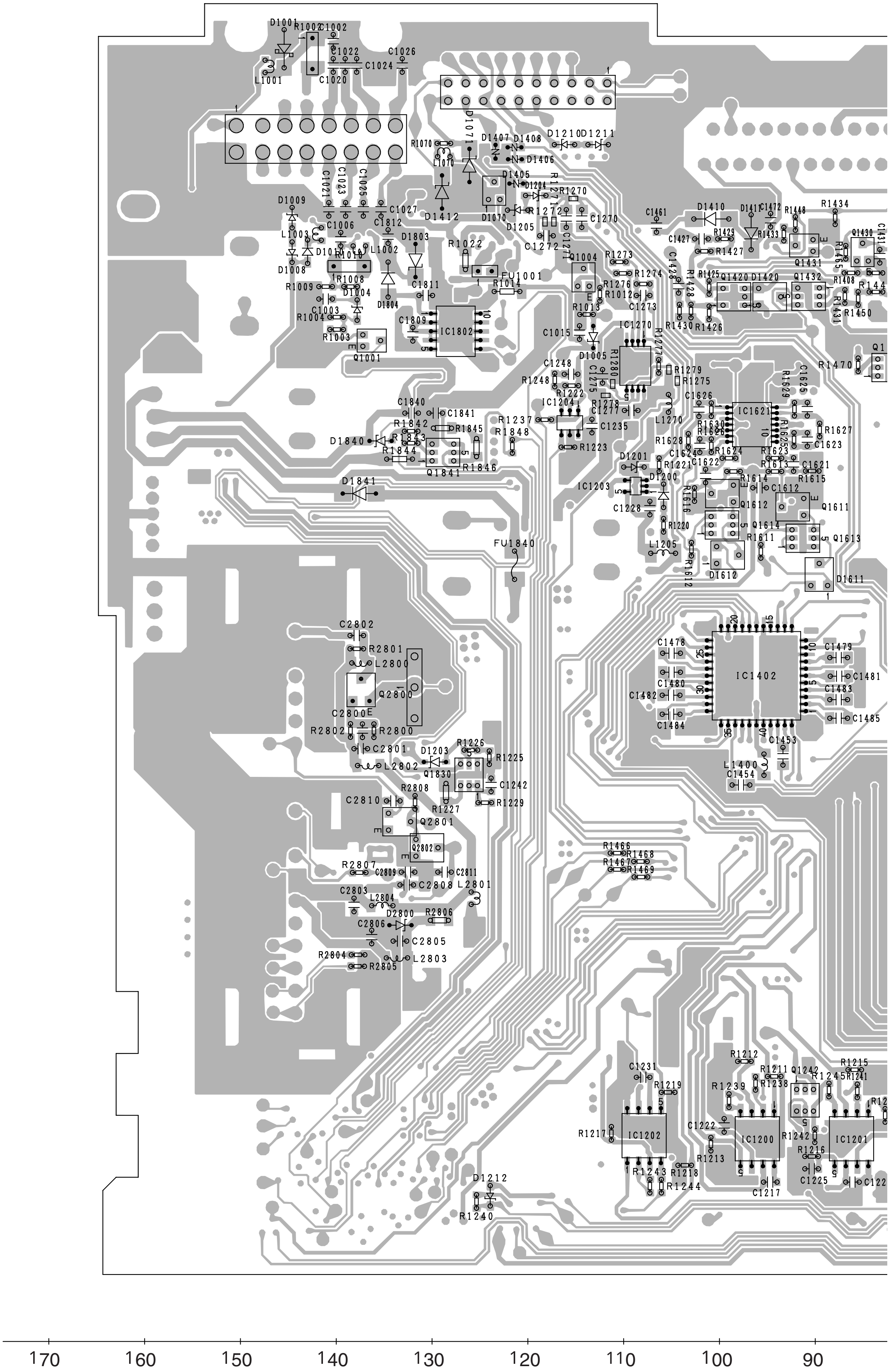

Cord Assy
G CN 5851
Cord Assy
CN1201
CN1001
CN1002
D1013
IC1401
EF1425
EF1402
EF1404
EF1423
EF1424
EF1426
EF1421
EF1422
C1071
R1464
R1463
R1260
C1467
C1462
C1471
C1474
C1469
C1468
C1463
C1464
R1459
C1465
R1460
C1430
FU1201
Q1006
C1016
C1014
C1010
D1006
D1002
D1015
R1001
L1004
C1443
C1276
C1012
R1016
C1017
R1017
R1018
C1018
D1011
C1233
C1232
C1843
C1435
C1628
C1627
C1236
D1007
C1019
Q1840
R1847
R1621
R1622
C1405
L1207
C1404
R1402
R1405
IC1403
C1423
C1421
C1424
D1401
C1402
R1401
C1011
C1013
C1403
R1404
R1406
FU1200
Q1207
R1228
C1426
C1419
C1429
C1432
C1425
C1842
C1401
CN2800
Y2600
C1420
C1433
C1434
TMC ANT
C1451
C1458
C1460
C1476
R1456
C1237
C1238
D1202
C1239
C1250
R1513
C1459
R1514
R1454
C1452
C1517
C1477
R1452
C1945
R1942
R1455
R1451
Q1206
C1241
C1240
R1224
C1948
L1940
R1946
R1453
C1941
C1824
R1824
IC1821
R1944
D1940
C1213
R1825
C1822
C1942
R1941
R1940
R1947
Q1822
Q1821
R1822
IC1940
R1821
C1821
C2807
C1940
R1943
R1946
C1220
C1212
FU1820
R1823
C1943
R1826
R1827
C1823
Q1823
R1838
IC1901
R1904
R1905
C1900
L1203
L1206
C1906
C1901
C1230
C2804
L1204
C1219
C1221
IC1900
C1910
R1839
C1226
C1223
C1234
R1840
C1204
R1841
R1948
R1831
C1201
C1203
C1202
C1205
C1200
CN1831
Q1201
R1202
R1201
Q1200
L1200
R1200
G CN 5802
0 90 100 110 120 130 140 150 160 170

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams

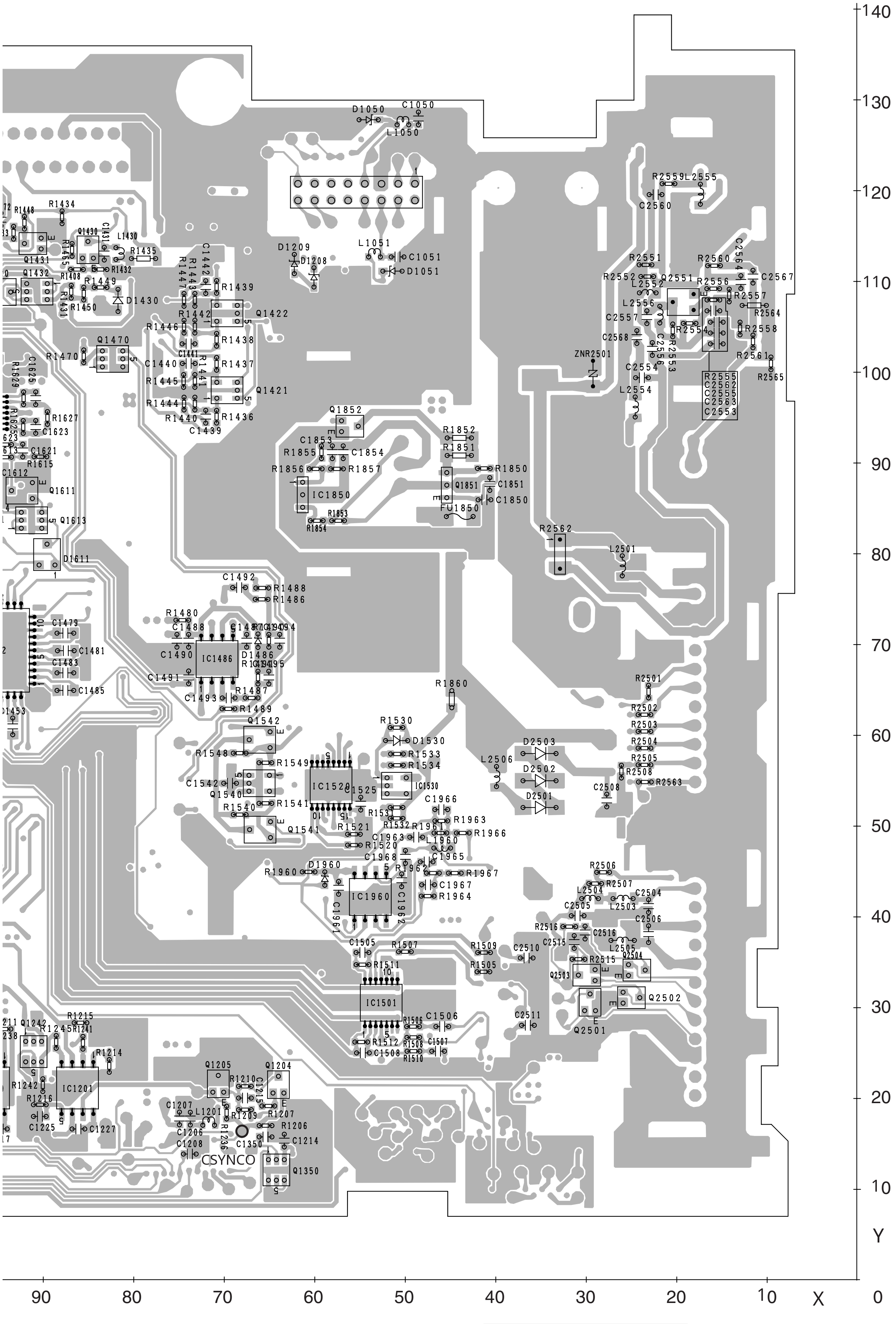

Connector
Capacitor
SIDE A
SIDE B
P.C.Board
Chip Part

C AUDIO UNIT


D1001
R1002
C1002
C1022
C1026
C1024
C1020
L1001
R1070
D1071
L1070
D1407
D1408
D1406
D1210
D1211
D1405
D1204
R1270
R1271
C1023
C1025
C1021
C1027
D1412
D1070
D1205
R1272
C1270
C1271
C1272
D1009
C1006
C1812
L1003
D1010
R1010
L1002
D1803
R1022
D1008
R1008
R1009
D1004
D1804
C1811
FU1001
R1014
Q1004
R1273
R1274
R1276
R1012
R1013
C1273
C1003
R1004
R1003
Q1001
C1809
IC1802
C1015
IC1270
D1005
C1248
R1248
R1222
R1280
R1277
R1279
R1275
C1275
R1278
C1277
IC1204
C1235
R1223
C1840
C1841
R1842
R1843
R1845
R1237
R1848
D1840
R1844
Q1841
R1846
D1841
C1461
D1410
D1411
C1472
R1448
R1434
C1427
R1429
R1433
R1427
C1428
Q1431
Q1430
R1425
Q1420
D1420
Q1432
R1408
R1428
R1430
R1426
R1431
R1450
R1470
C1626
R1629
C1625
IC1621
R1630
R1626
R1627
C1623
R1628
C1624
R1624
R1623
D1201
R1221
C1622
R1613
C1621
D1200
R1614
R1615
IC1203
C1612
Q1611
C1228
R1616
Q1612
Q1614
R1220
R1611
Q1613
L1205
R1612
D1612
D1611
FU1840
C1478
C1479
IC1402
C1481
C1480
C1483
C1482
C1484
C1485
C1453
L1400
C1454
C2802
R2801
L2800
Q2800
C2800
R2802
R2800
C2801
D1203
R1226
R1225
L2802
Q1830
C1242
R2808
R1227
R1229
C2810
Q2801
Q2802
R2807
C2809
C2811
C2808
L2801
C2803
L2804
D2800
R2806
C2806
C2805
R2804
L2803
R2805
R1466
R1468
R1467
R1469
R1212
R1211
Q1242
R1215
R1245
R1241
C1231
R1239
R1238
R1219
C1222
R1217
IC1202
IC1200
R1242
IC1201
R1216
R1213
R1243
R1218
R1244
C1217
C1225
D1212
R1240
170
160
150
140
130
120
110
100
90

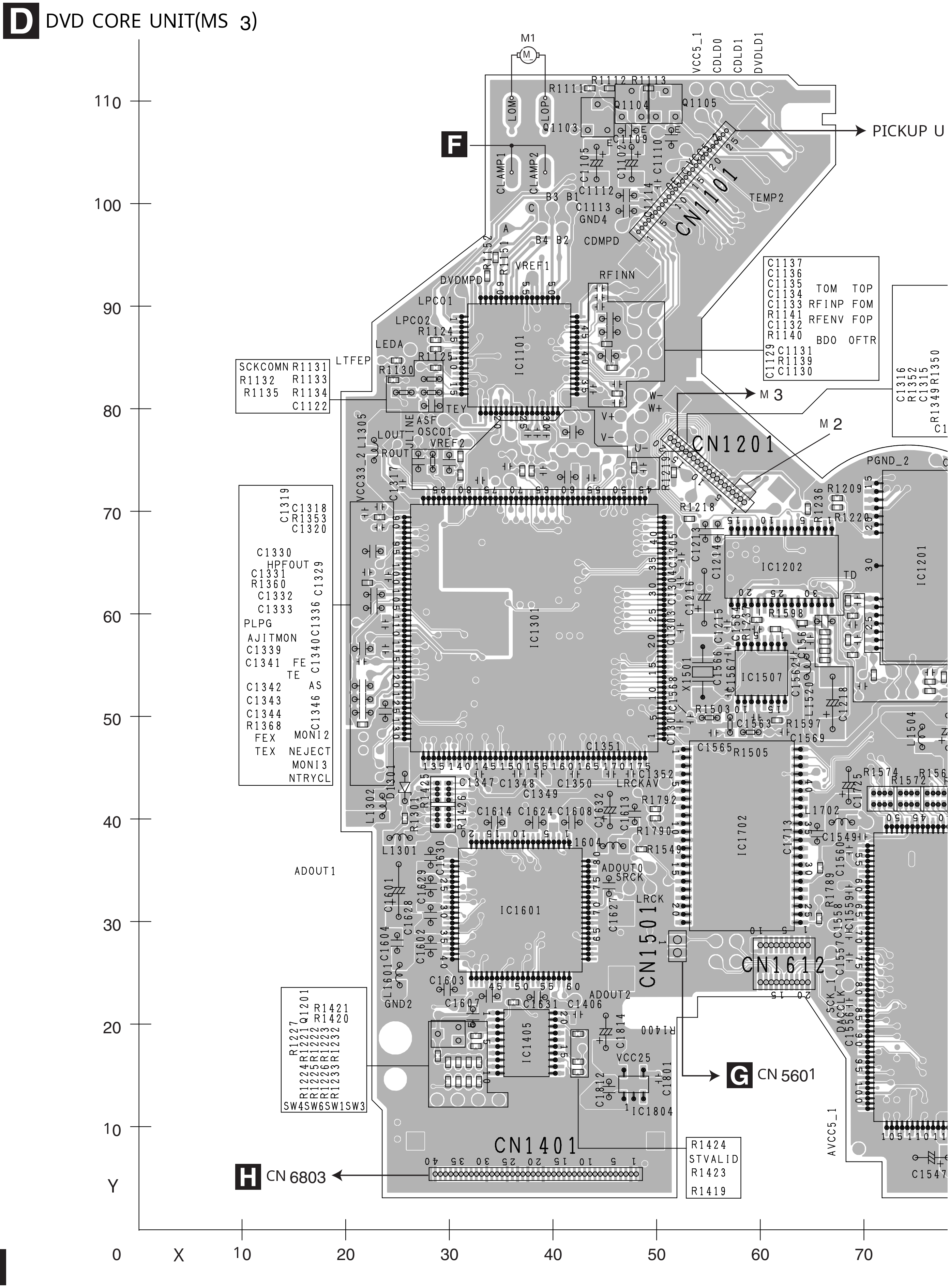
SIDE B

FU1001 (B,134,121) Fuse 750 mA CEK1 279
FU1840 (B,131,37) Fuse 2.5 A CEK1 258
FU1850 (B,47,91) Fuse 630 mA CEK1 252


140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y
0
90
80
70
60
50
40
30
20
10
X
D1050
C1050
L1050
R2559
L2555
C2560
R1434
R1448
Q1430
C1431
L1430
R1465
Q1431
R1435
R1432
R1408
Q1432
R1449
D1430
R1431
R1450
C1442
R1443
R1447
R1439
Q1422
R1442
R1446
R1438
Q1470
R1470
C1440
C1441
R1441
R1437
R1445
Q1421
R1444
R1440
R1436
C1439
D1209
D1208
L1051
C1051
D1051
R2551
R2560
C2564
C2567
R2552
Q2551
R2556
L2552
R2557
L2556
C2557
R2564
C2568
R2554
C2556
R2553
R2558
ZNR2501
R2561
C2554
R2565
L2554
R2555
C2562
C2555
C2563
C2553
R1629
C1625
R1627
C1623
C1621
R1615
C1612
Q1611
Q1613
D1611
Q1852
R1852
C1853
R1851
R1855
C1854
R1856
R1857
R1850
C1851
Q1851
IC1850
C1850
FU1850
R1853
R1854
R2562
L2501
C1492
R1488
R1486
R1480
C1488
C1479
C1481
C1483
C1485
C1490
IC1486
D1486
C1491
C1493
R1487
R1489
C1453
R2501
R1860
R2502
R2503
Q1542
R1530
D1530
R2504
D2503
R1548
R1549
R1533
R1534
L2506
R2505
R2508
D2502
C1542
Q1540
IC1520
C1525
IC1530
R2563
C2508
R1541
C1966
D2501
R1540
R1531
R1963
Q1541
R1521
R1532
R1961
R1966
C1963
L1960
R1520
C1968
C1965
D1960
R2506
R1960
R1962
R1967
IC1960
C1967
R2507
L2504
C2504
R1964
C1961
C1962
C2505
L2503
C2506
R2516
C2516
C2515
C1505
R1507
R1509
C2510
L2505
R2515
Q2504
R1511
R1505
Q2503
IC1501
Q2502
R1215
Q1242
R1245
R1241
C1506
R1506
C2511
Q2501
R1214
C1507
R1512
R1508
C1508
R1510
Q1205
Q1204
R1210
C1215
IC1201
R1242
R1216
C1207
L1201
R1209
R1207
C1225
C1227
C1206
R1236
R1206
C1214
C1208
C1350
CSYNCO
Q1350

C

4.2 DVD CORE UNIT(MS3)


D
DVD CORE UNIT(MS 3)
M1
VCC5_1
CDLD0
CDLD1
DVDLD1
R1111
R1112 R1113
Q1104
Q1105
Q1103
LOM
LOP
C1109
PICKUP U
F
CLAMP1
CLAMP2
C1105
C1102
C1110
C1112
C1113
C1114
GND4
CN1101
TEMP2
B3 B1
B4 B2
A
C
CDMPD
R1152
R1151
VREF1
DVDMPD
RFINN
LPCO1
LPCO2
R1124
LEDA
R1125
LTFEP
R1130
IC1101
C1137
C1136
C1135
C1134 TOM TOP
C1133 RFINP FOM
R1141
C1132 RFENV FOP
R1140
BDO OFTR
C1129
C1131
R1139
C1130
C1316
R1352
C1315
R1349 R1350
SCKCOMN R1131
R1132 R1133
R1135 R1134
C1122
TEY
ASF
W−
W+
V+
V−
U−
M 3
M 2
CN1201
LOUT
JLINE
OSCO1
VREF2
ROUT
VCC33_2
L1305
C1317
R1219
PGND_2
R1218
R1236
R1209
R1220
C1319
C1318
R1353
C1320
C1330
HPFOUT
C1331
R1360
C1332
C1333
C1329
PLPG
C1336
AJITMON
C1339
C1341 FE
C1340
TE
C1342 AS
C1343
C1346
C1344
R1368
FEX MONI2
TEX NEJECT
MONI3
NTRYCL
IC1301
C1305
C1304
C1303
C1301
C1568
C1213
C1214
IC1202
C1216
C1215
C1564
R1231
R1598
C1561
TD
IC1201
X1501
C1566
C1567
IC1507
C1562
L1520
C1218
R1503
C1563
R1597
C1569
L1504
C1351
C1352
C1565
R1505
LRCKAV
D1301
R1301
R1425
R1426
C1347
C1348
C1349
C1350
L1302
R1792
C1632
C1613
R1790
C1614 C1624 C1608
C1604
R1549
L1301
C1630
IC1601
ADOUT0
SRCK
LRCK
C1627
C1629
C1601
C1628
C1602
IC1702
C1713
L1702
R1574
R1572
R156
C1725
C1549
C1560
R1789
C1558
C1557
C1559
C1561
C1556
SCK_1
DACCLK
ADOUT1
CN1501
CN1612
L1601
GND2
C1603
C1607
C1631
C1406
ADOUT2
IC1405
C1814
R1400
VCC25
C1812
C1801
IC1804
G
CN 5601
AVCC5_1
C1547
R1421
R1420
Q1201
R1227
R1221
R1222
R1223
R1232
R1224
R1225
R1226
R1233
SW4 SW6 SW1 SW3
CN1401
R1424
STVALID
R1423
R1419
H
CN 6803
110
100
90
80
70
60
50
40
30
20
10
Y
0
X
10
20
30
40
50
60
70

SIDE A

A

→ PICKUP UNIT(SERVICE)

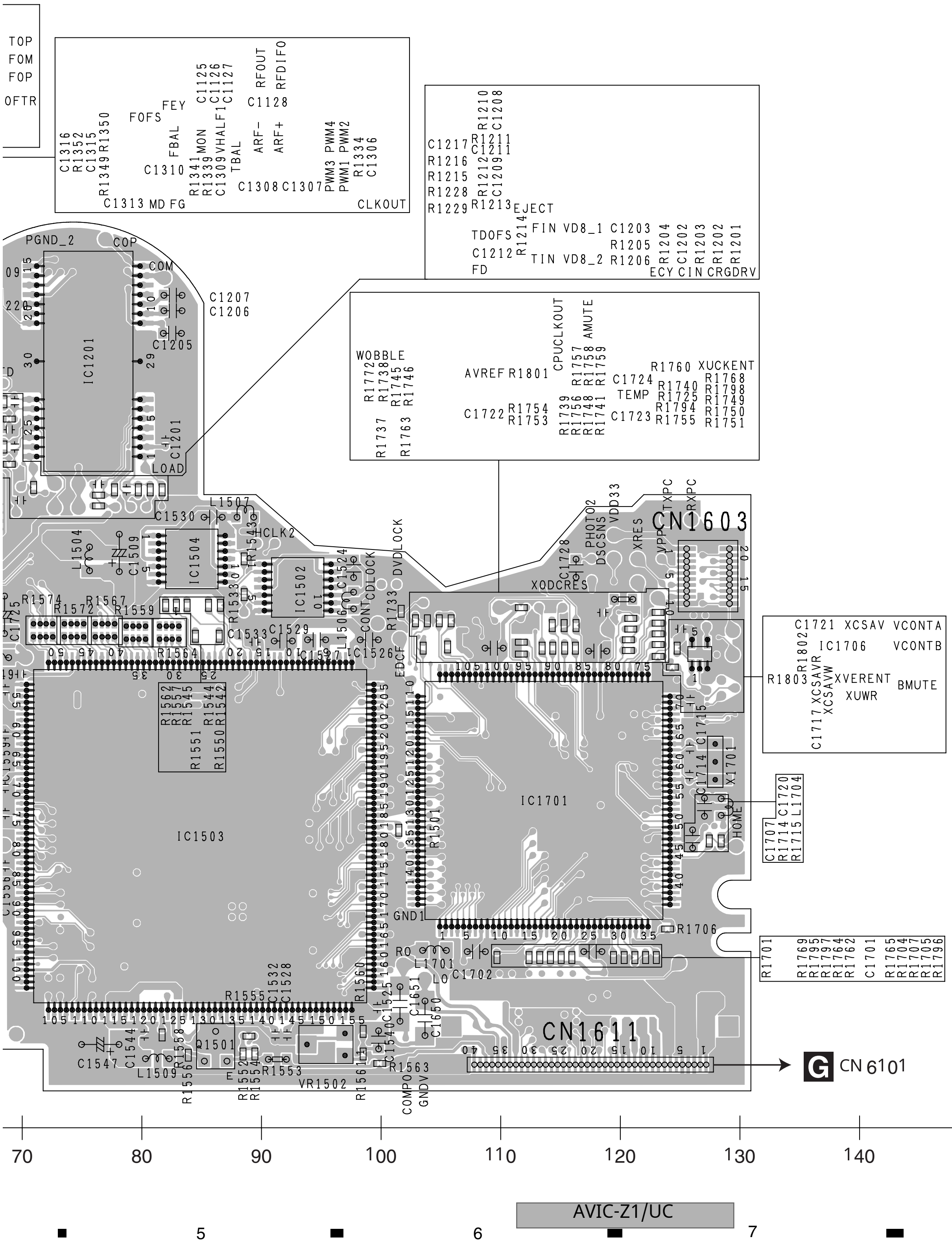
B

C

D

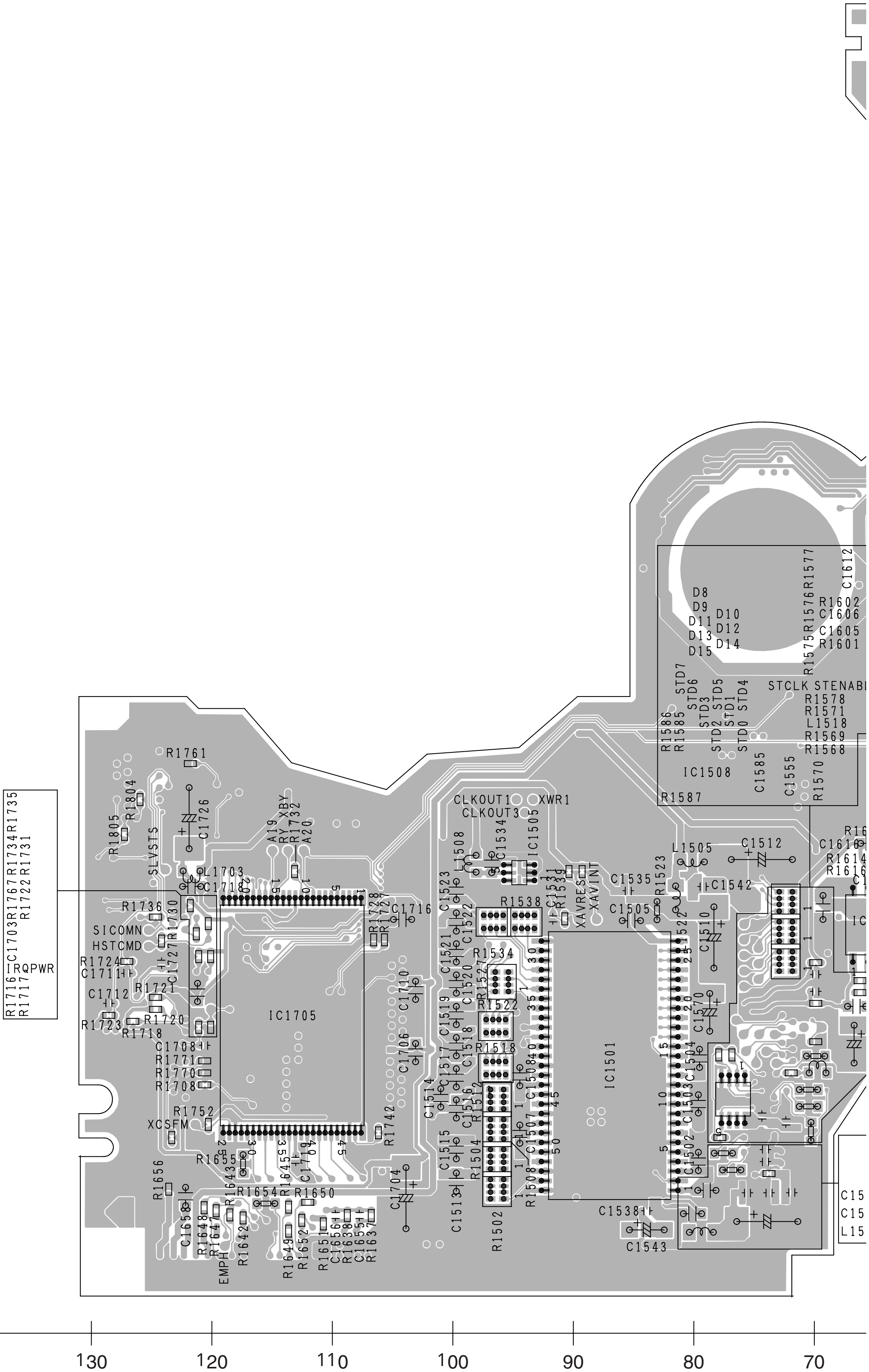
E

F

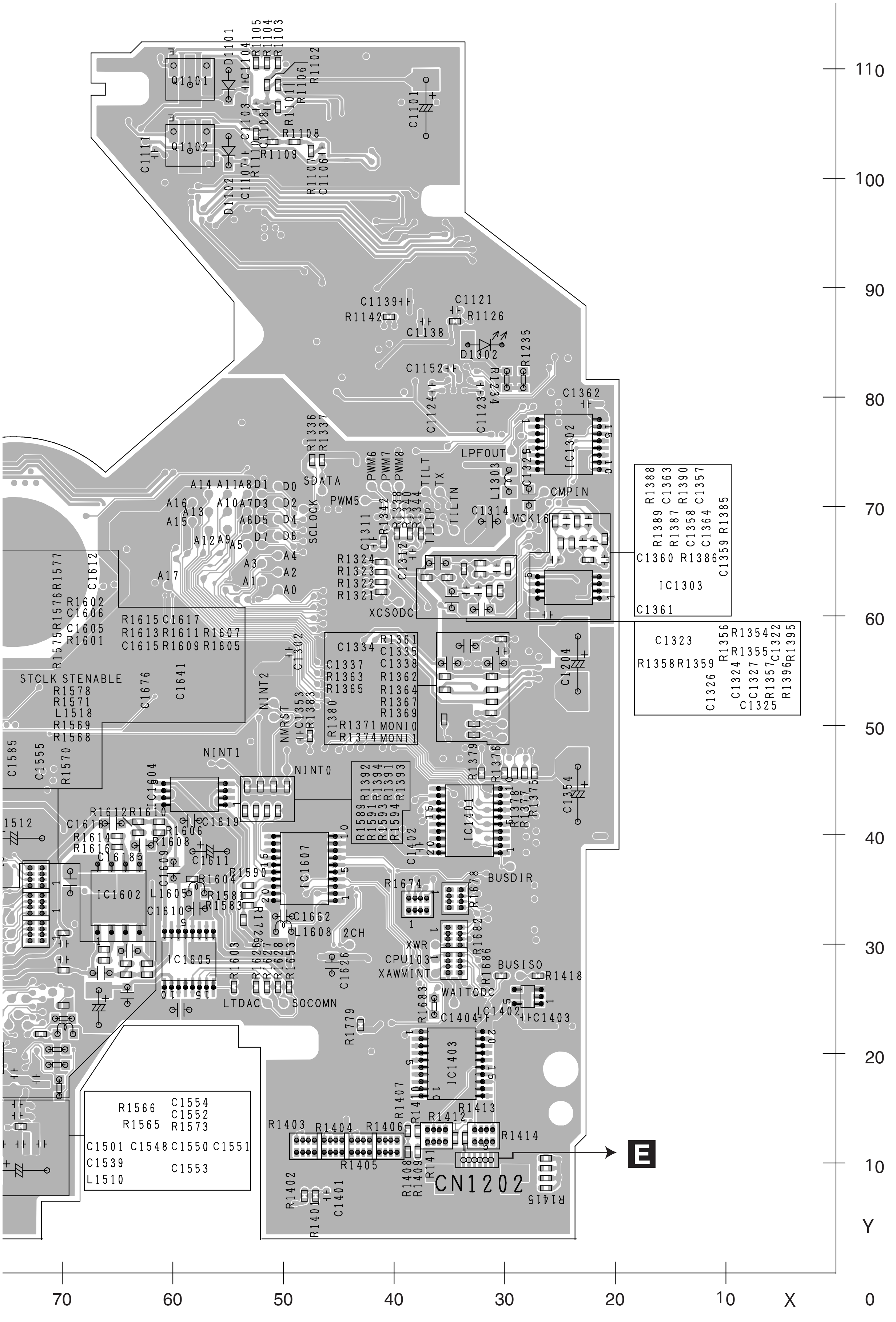

TOP
FOM
FOP
OFTR
C1316 R1352 C1315 R1349 R1350
C1313 MD FG
FOFS
FEY
FBAL
C1310
R1341 R1339 C1309 MON VHALF1 TBAL
C1125 C1126 C1127
C1308 C1307
ARF- ARF+
RFOUT RFDIFO
C1128
PWM3 PWM1 PWM4 PWM2
R1334 C1306
CLKOUT
C1217 R1216 R1215 R1228 R1229
R1210 C1208 R1211 C1211 R1212 C1209 R1213
EJECT
R1214
TDOFS
C1212
FD
FIN VD8_1
TIN VD8_2
C1203 R1205 R1206
R1204 C1202 R1203 R1202 R1201
ECY CIN CRGDRV
WOBBLE
R1772 R1738 R1745 R1746
R1737 R1763
AVREF R1801
C1722 R1754 R1753
CPUCLKOUT
R1757 R1758 R1759 AMUTE
R1739 R1756 R1748 R1741
C1724 TEMP C1723
R1760 R1740 R1725 R1794 R1755
XUCKENT R1768 R1798 R1749 R1750 R1751
PGND_2 COP COM
IC1201
C1207 C1206 C1205
C1201
LOAD
L1507
C1530
HCLK2
R1543
L1504
C1509
IC1504
IC1502
R1533
C1524
CDLOCK
DVDLOCK
CONT
R1733
EDCF
R1574 R1567 R1572 R1559
C1725
R1564
C1533 C1529 C1527 C1526
L1506
R1562 R1557 R1545 R1544 R1542
R1551 R1550
IC1503
R1501
GND1
R1555
C1532 C1528
R1560
C1525 C1540
C1651 C1650
R0 L1701 L0 C1702
C1544 C1547 L1509
R1558 Q1501 R1556
E
R1552 R1554 R1553
VR1502
R1561
C1563
COMPO GNDV
PHOTO2 DSCSNS VDD33
XRES VPP TXPC RXPC
CN1603
C1728
XODCRES
IC1701
R1706
C1715 C1714 C1707 X1701
HOME
C1707 R1714 R1715
C1720 L1704
C1721 XCSAV VCONTA
R1802 IC1706 VCONTB
R1803 XCSAVR XCSAVW XVERENT XUWR BMUTE
C1717
R1701 R1769 R1795 R1797 R1764 R1762 C1701 R1765 R1704 R1707 R1705 R1796
CN1611
G CN 6101
70 80 90 100 110 120 130 140 150

D

D DVD CORE UNIT(MS 3)


IC1705
IC1501
IC1508
IC1505
R1761
R1804
R1805
SLVSTS
C1726
A19
RY_XBY
R1732
A20
L1703
C1718
R1736
R1730
SICOMN
HSTCMD
R1724
C1711
C1727
C1712
R1721
R1723
R1720
R1718
C1708
R1771
R1770
R1708
R1752
XCSFM
R1655
R1656
C1658
R1648
R1647
EMPH
R1642
R1643
R1654
R1645
R1650
R1649
R1652
R1651
C1710
C1706
C1716
R1728
R1727
R1742
C1704
CLKOUT1
CLKOUT3
XWR1
L1508
C1534
C1523
C1522
C1521
C1520
C1519
C1518
C1517
C1516
C1515
C1514
C1513
R1538
R1534
R1527
R1522
R1518
R1512
R1504
R1502
R1508
C1508
C1507
C1531
R1539
XAVRES
XAVINT
C1535
C1505
R1523
R1522
L1505
C1512
C1542
C1510
C1570
C1504
C1503
C1502
C1538
C1543
D8
D9
D10
D11
D12
D13
D14
D15
STD7
STD6
STD5
STD4
STD3
STD2
STD1
STD0
R1586
R1585
C1585
C1555
R1587
R1570
R1577
R1576
R1575
C1612
R1602
C1606
C1605
R1601
STCLK
STENABL
R1578
R1571
L1518
R1569
R1568
R1716
R1717
IRQPWR
C1703
R1767
R1722
R1734
R1731
R1735
150
140
130
120
110
100
90
80
70

SIDE B


Q1101
Q1102
D1101
D1102
C1104
C1103
C1111
C1107
C1108
R1105
R1104
R1103
R1101
R1102
R1106
R1108
R1109
R1110
R1107
C1106
C1101
C1139
C1121
R1142
R1126
C1138
D1302
R1235
C1152
R1234
C1124
C1123
C1362
IC1302
LPFOUT
L1303
C1325
CMPIN
C1314
MCK16
R1336
R1337
SDATA
SCLOCK
PWM5
PWM6
PWM7
PWM8
TILT
TX
TILTN
TILTP
R1338
R1340
R1344
R1342
C1311
C1312
C1313
R1324
R1323
R1322
R1321
XCSODC
A14 A11 A8 D1 D0
A16 A10 A7 D3 D2
A13
A15 A6 D5 D4
A12 A9 A5 D7 D6
A3 A4
A17 A1 A2 A0
C1612
R1577
R1602
R1576
C1606
C1605
R1575
R1601
R1615 C1617
R1613 R1611 R1607
C1615 R1609 R1605
C1302
C1334 R1361
C1335
C1337 C1338
R1363 R1362
R1365 R1364
R1367
R1369
R1380
R1371 MONI0
R1374 MONI1
NINT2
NMRST
C1353
R1383
STCLK STENABLE
R1578
R1571
L1518
R1569
R1568
C1676
C1641
C1585
C1555
R1570
NINT1
NINT0
C1604
R1612 R1610
C1616
C1619
R1614
R1606
R1616
R1608
C1618
C1611
C1609
R1604
1512
IC1602
L1605
R1581
R1583
C1610
IC1605
R1590
IC1607
R1726
C1662
L1608
2CH
R1603
R1622
R1627
R1628
R1653
C1626
LTDAC
SOCOMN
R1589 R1592
R1591 R1394
R1593 R1391
R1594 R1393
C1402
IC1401
R1379
R1376
R1378
R1377
R1375
C1354
C1204
R1674
R1678
BUSDIR
R1682
XWR
CPU103
XAWMINT
R1686
BUSISO
R1418
WAITODC
R1683
C1404
IC1402
C1403
R1779
IC1403
R1407
R1410
R1403 R1404 R1406
R1405
R1412
R1413
R1414
R1411
R1408
R1409
CN1202
R1415
R1402
R1401
C1401
R1566
R1565
C1554
C1552
R1573
C1501 C1548 C1550 C1551
C1539
C1553
L1510
R1388 C1363
R1389 R1387 R1390
C1358 C1357
C1364
C1359 R1385
C1360 R1386
IC1303
C1361
C1323
R1356 R1354
R1355
R1358 R1359
C1322
R1395
C1326
C1324
C1327
R1357
R1396
C1325
E
110
100
90
80
70
60
50
40
30
20
10
Y
70
60
50
40
30
20
10
X
0

A

B

C

D

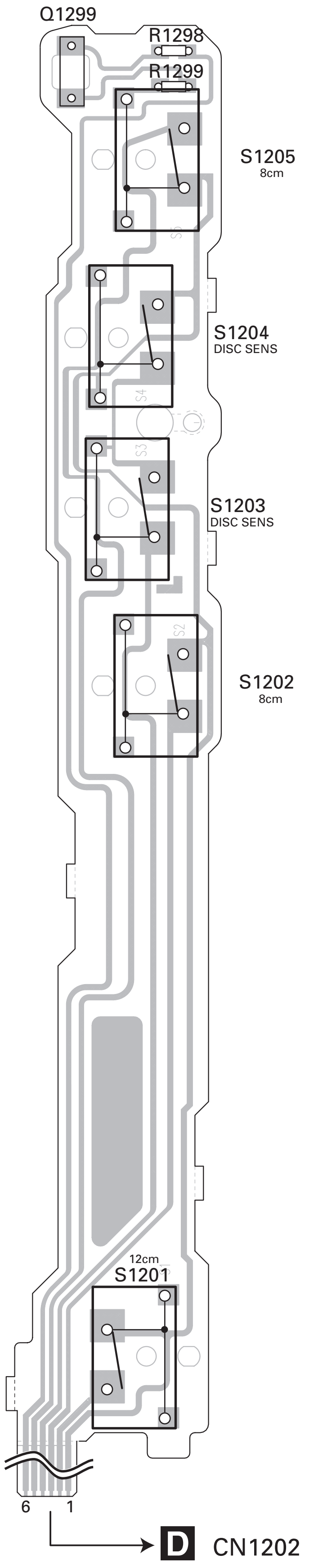
E

F

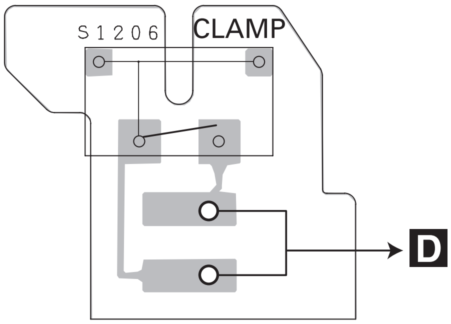
D

4.3 COMPOUND UNIT(A) AND COMPOUND UNIT(B)

E COMPOUND UNIT(A)

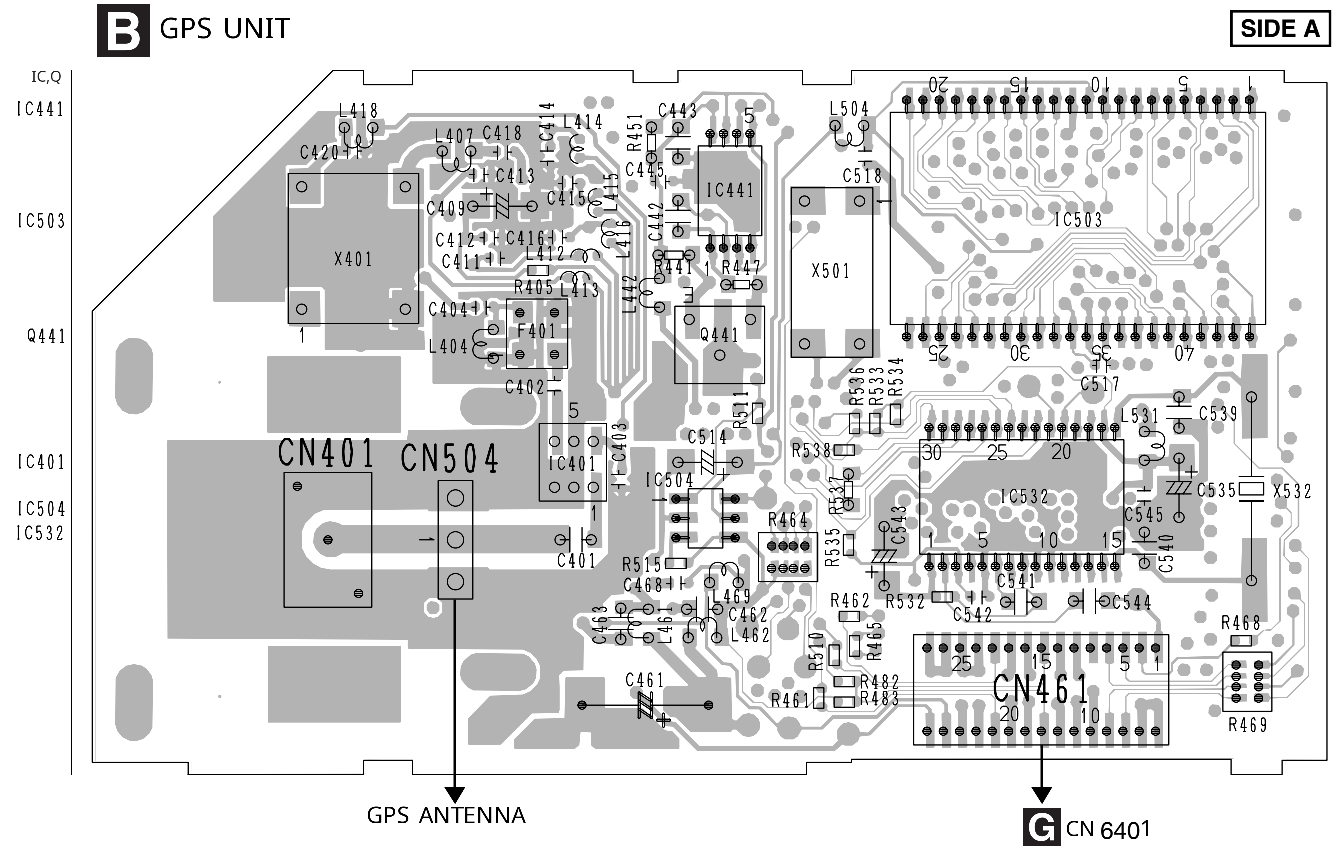

Q1299
R1298
R1299
S1205
8cm
S1204
DISC SENS
S1203
DISC SENS
S1202
8cm
12cm
S1201
6
1
D
CN1202

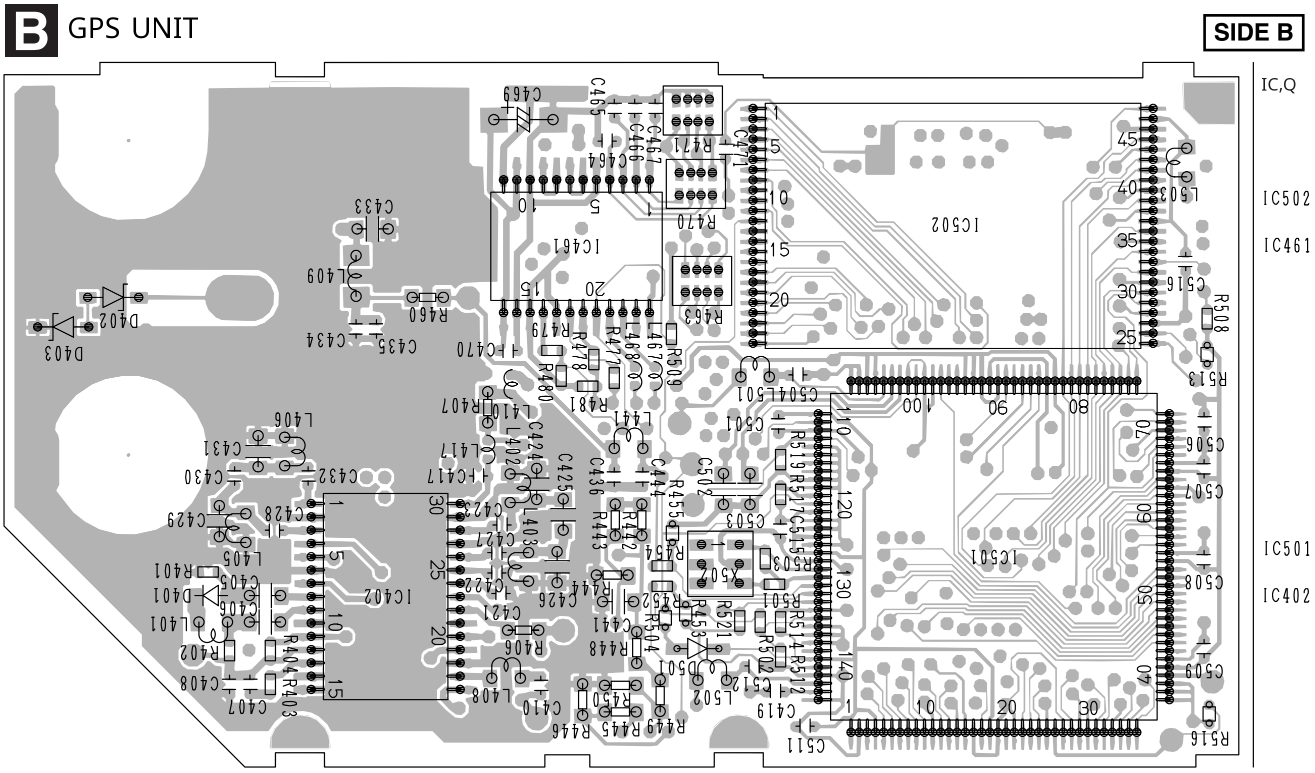
F COMPOUND UNIT(B)


S1206
CLAMP
D

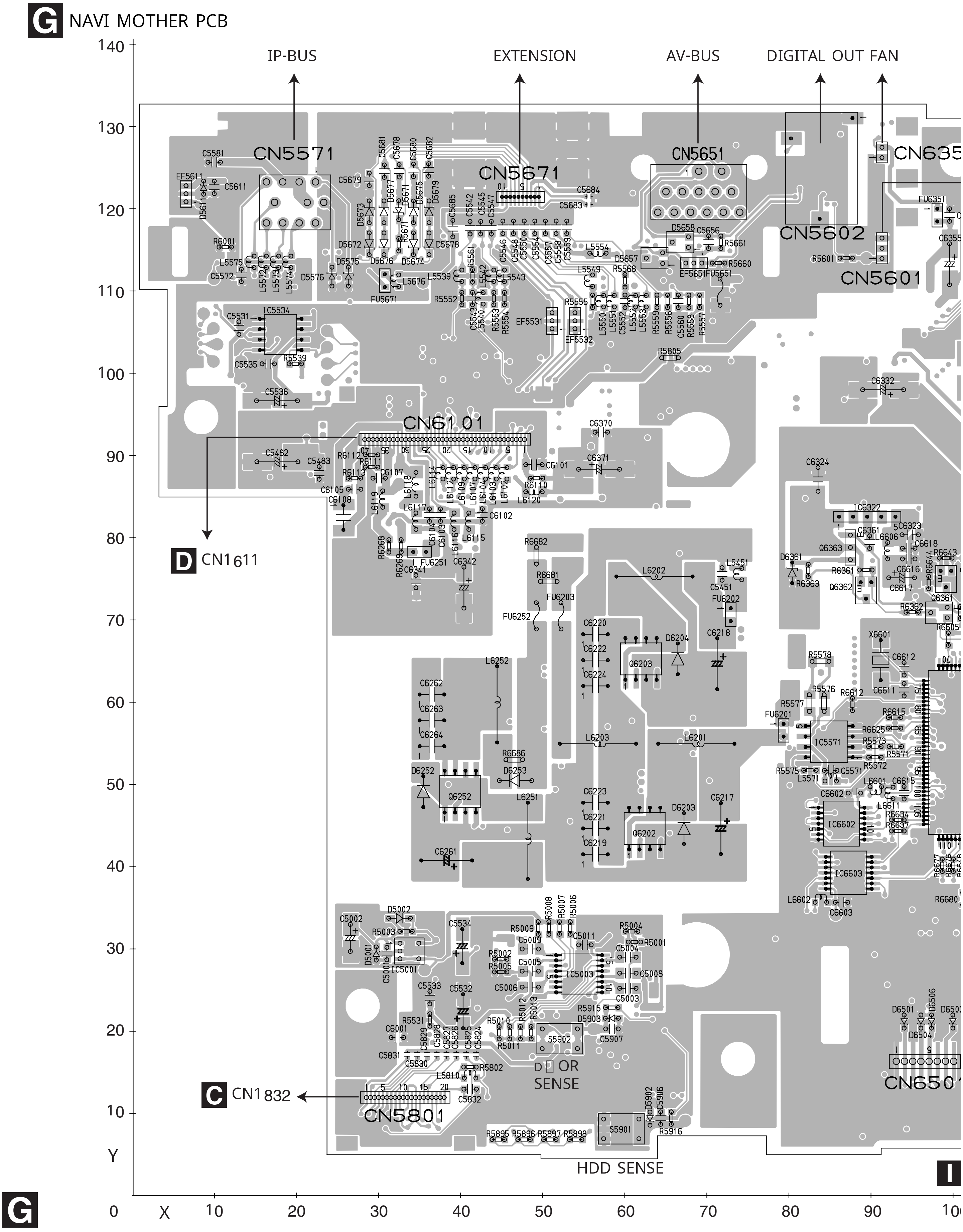
E **F**

4.4 GPS UNIT

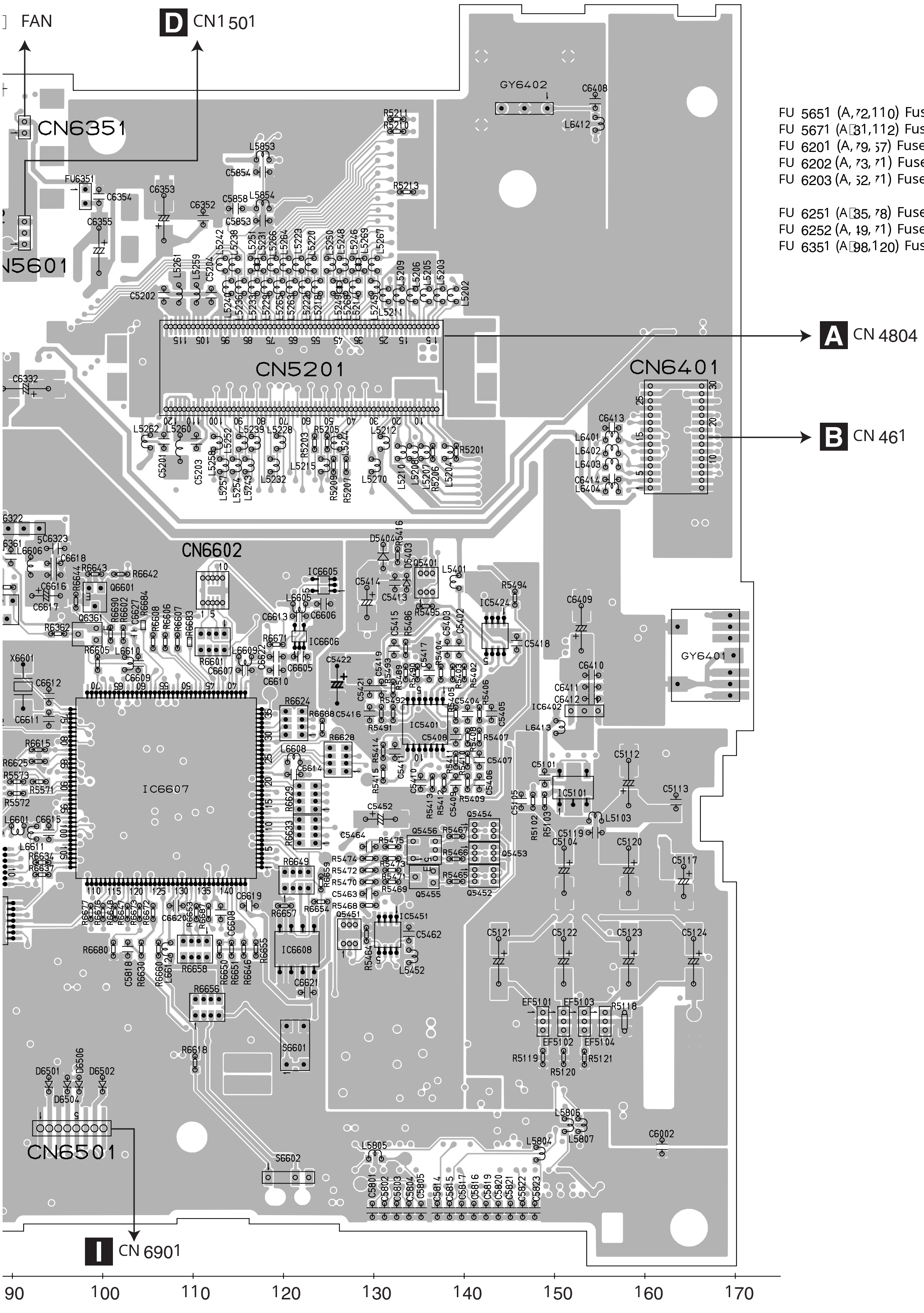

B
GPS UNIT
SIDE A
IC,Q
IC441
IC503
Q441
IC401
IC504
IC532
X401
F401
CN401
CN504
IC401
IC504
IC441
X501
IC503
IC532
CN461
X532
R464
R469
GPS ANTENNA
G CN 6401


B
GPS UNIT
SIDE B
IC,Q
IC502
IC461
IC501
IC402
D402
D403
D401
D501
X502

4.5 NAVI MOTHER PCB

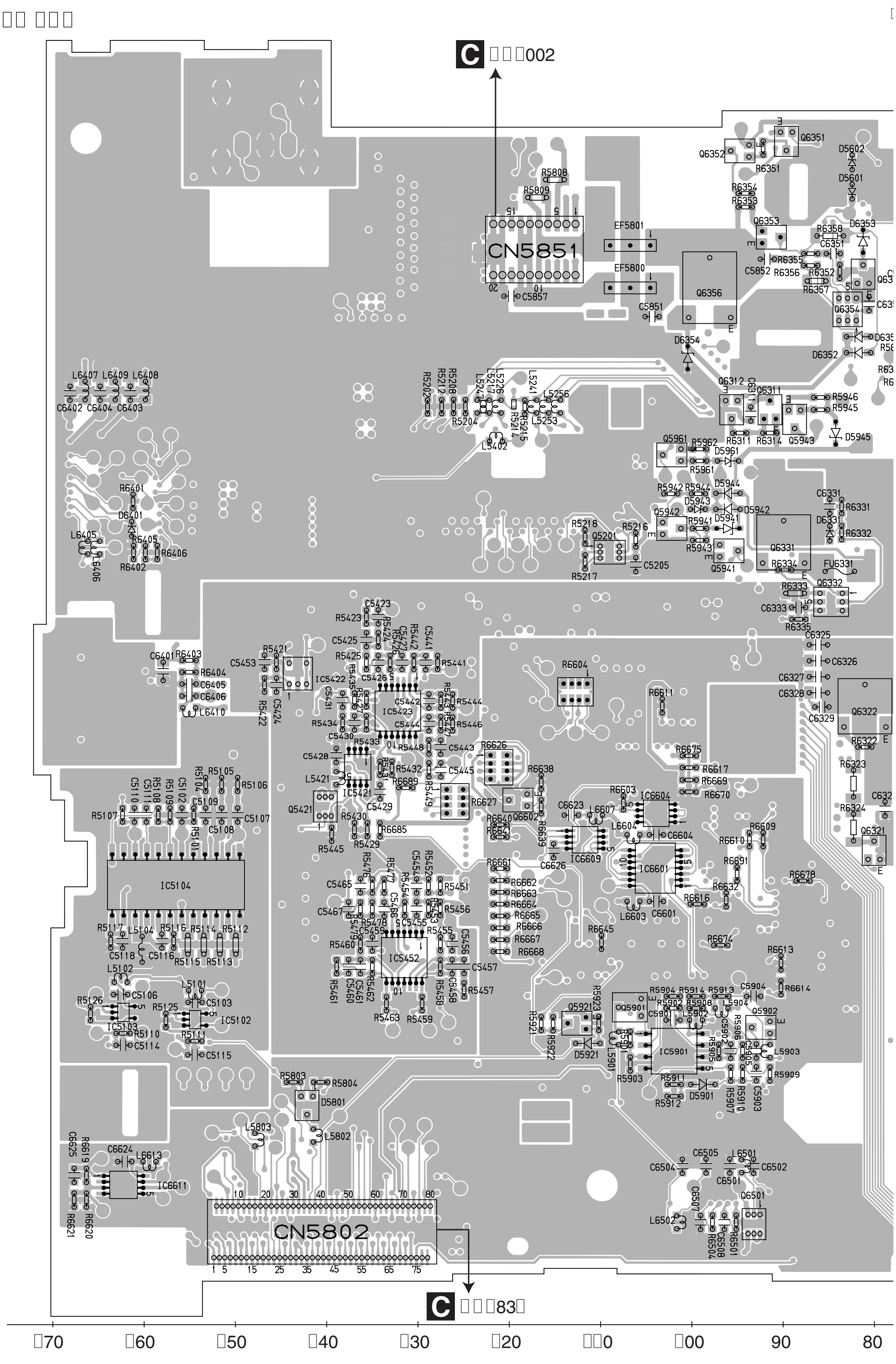

G
NAVI MOTHER PCB
IP-BUS
EXTENSION
AV-BUS
DIGITAL OUT
FAN
CN5571
CN5671
CN5651
CN5602
CN5601
CN635
CN6101
D
CN1611
IC5534
IC6322
IC5571
IC6602
IC6603
IC5001
IC5003
Q6203
Q6252
Q6202
Q6363
Q6362
Q6361
L6202
L6252
L6203
L6201
L6251
D6204
D6203
D6252
D6253
X6601
S5902
S5901
DOOR
SENSE
C
CN1832
CN5801
CN650
HDD SENSE
I
G
140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y
0
X
10
20
30
40
50
60
70
80
90
100

SIDE A


FAN
D CN1501
A CN4804
B CN461
I CN6901
CN6351
CN5201
CN6401
CN6602
CN6501
IC6607
IC6608
IC5401
IC5101
GY6402
GY6401
90 100 110 120 130 140 150 160 170

FU	5651	(A,72,110)	Fuse 4 A	CEK1 260
FU	5671	(A,31,112)	Fuse 1 A	CEK1 280
FU	6201	(A,79,57)	Fuse 2 A	CEK1 284
FU	6202	(A,73,71)	Fuse 3 A	CEK1 286
FU	6203	(A,52,71)	Fuse 4 A	CEK1 260
FU	6251	(A,35,78)	Fuse 2 A	CEK1 284
FU	6252	(A,49,71)	Fuse 2.5 A	CEK1 258
FU	6351	(A,98,120)	Fuse 1 A	CEK1 280

G

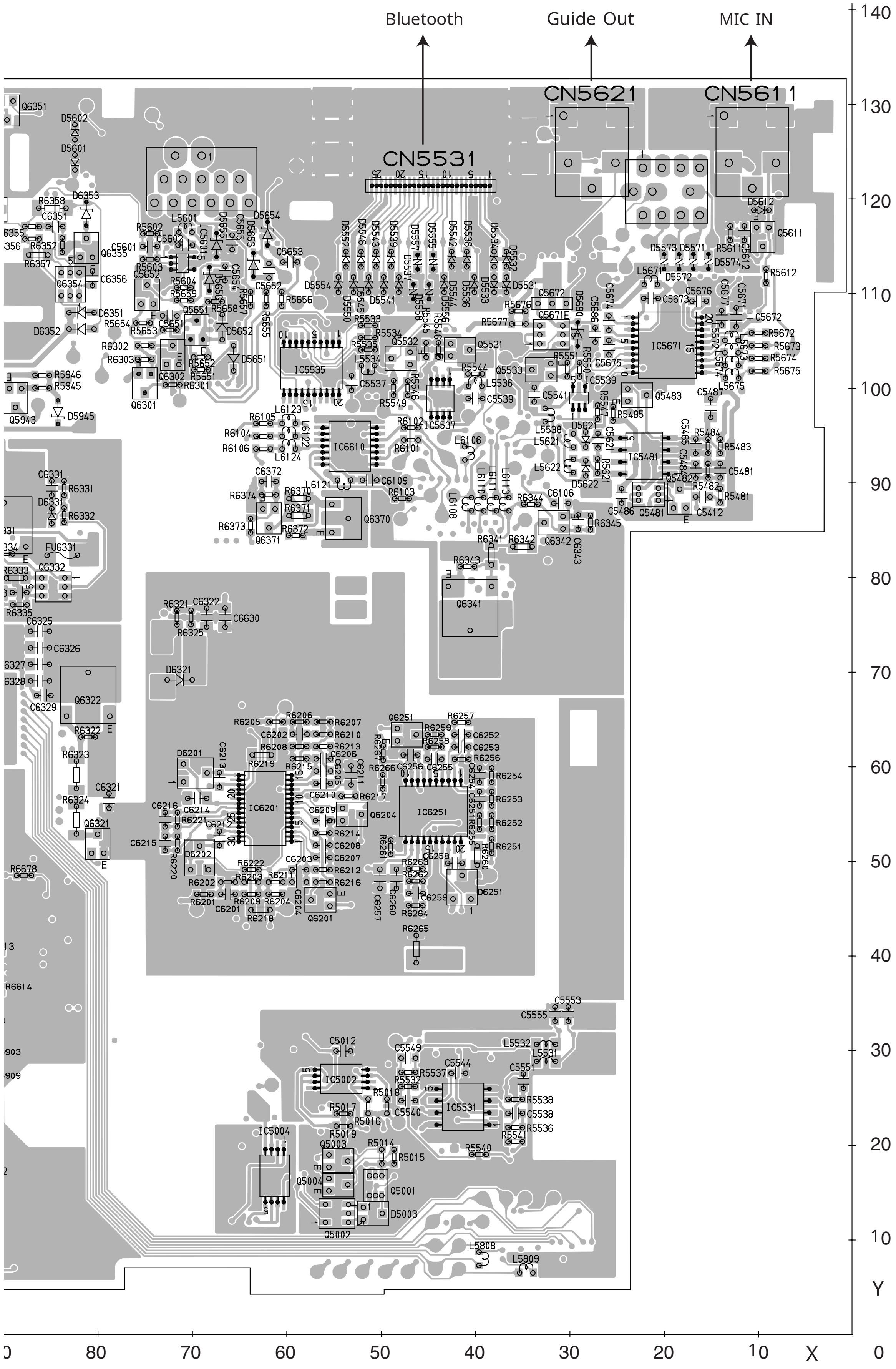

C 002
C 83
CN5851
CN5802
IC5104
IC5102
IC5103
IC5421
IC5422
IC5423
IC5452
IC6601
IC6604
IC6609
IC6611
IC5901
Q6351
Q6352
Q6353
Q6354
Q6356
Q6311
Q6312
Q6321
Q6322
Q6331
Q6332
Q5201
Q5421
Q5901
Q5902
Q5921
Q5941
Q5942
Q5943
Q5961
Q6501
Q6602
D5601
D5602
D5801
D5901
D5921
D5941
D5942
D5943
D5944
D5945
D5961
D6331
D6352
D6353
D6354
D6401
EF5800
EF5801
FU6331
L5102
L5104
L5241
L5253
L5256
L5402
L5421
L5802
L5803
L6405
L6407
L6409
L6408
L6410
L6501
L6502
L6603
L6604
L6607
L6613
R5808
R5809
C5852
C5851
C5857
C5205
R5216
R5217
R5218
R5803
R5804
10 20 30 40 50 60 70 80
1 5 15 25 35 45 55 65 75
15 5 1
20 10

70 60 50 40 30 20 0 00 90 80

G

SIDE B

FU6331 (B,34□83) Fuse 1 A CEK1254

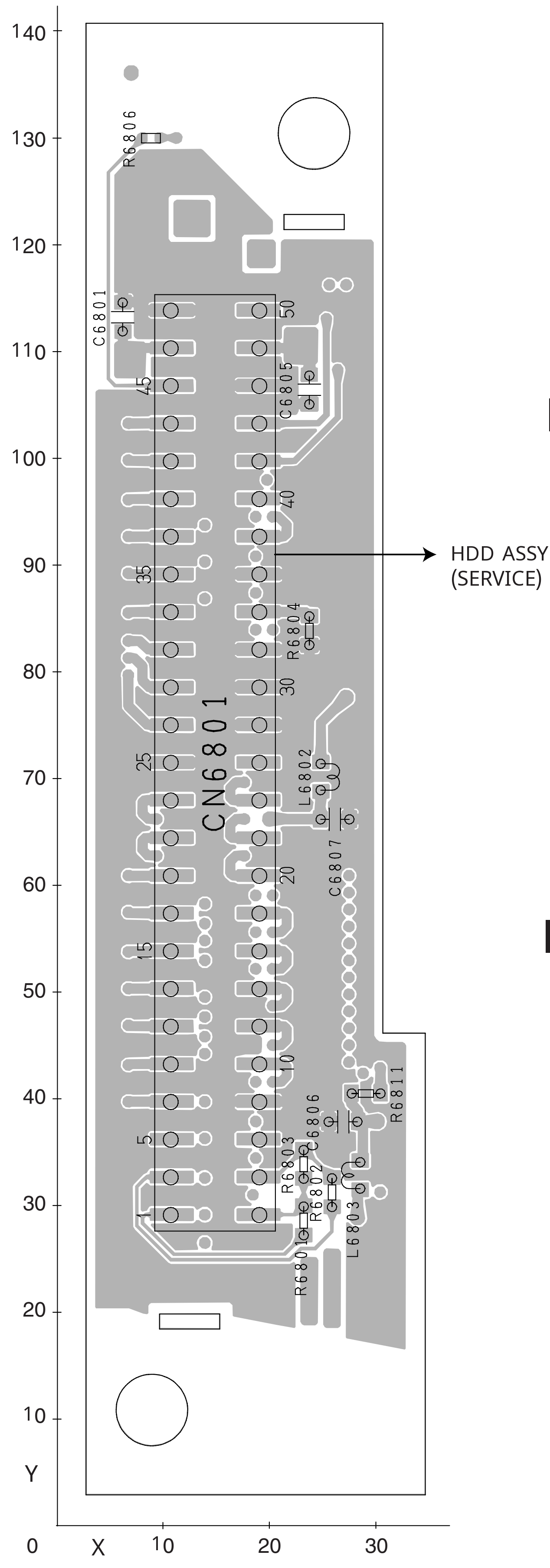

Bluetooth
Guide Out
MIC IN
CN5621
CN5611
CN5531
IC5535
IC6610
IC5671
IC5481
IC6201
IC6251
IC5002
IC5531
IC5004
Q6341
Q6322
Q6370
FU6331
140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y
80
70
60
50
40
30
20
10
X
0

A
B
C
D
E
F

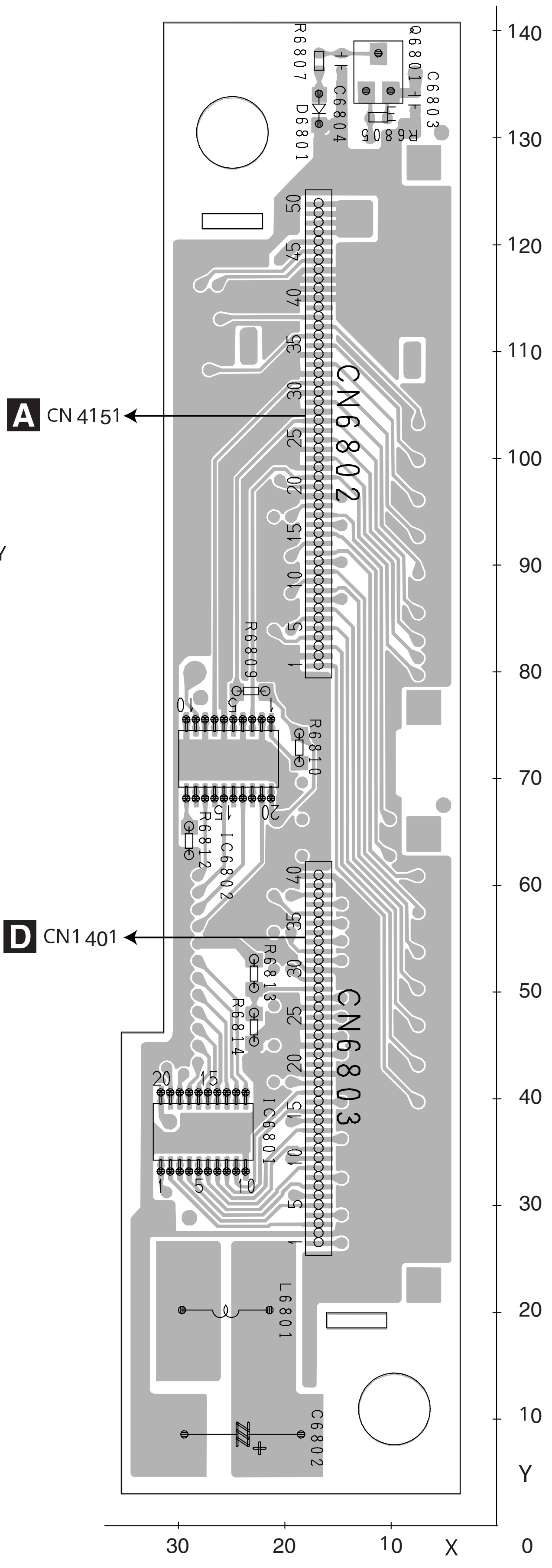
G

4.6 HDD RELAY PCB

H HDD RELAY PCB **SIDE A**


140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y
0
X
10
20
30
R6806
C6801
CN6801
50
45
40
35
30
25
20
15
10
5
1
C6805
R6804
L6802
C6807
R6811
C6806
R6803
R6802
L6803
R6801
HDD ASSY
(SERVICE)

H HDD RELAY PCB **SIDE B**

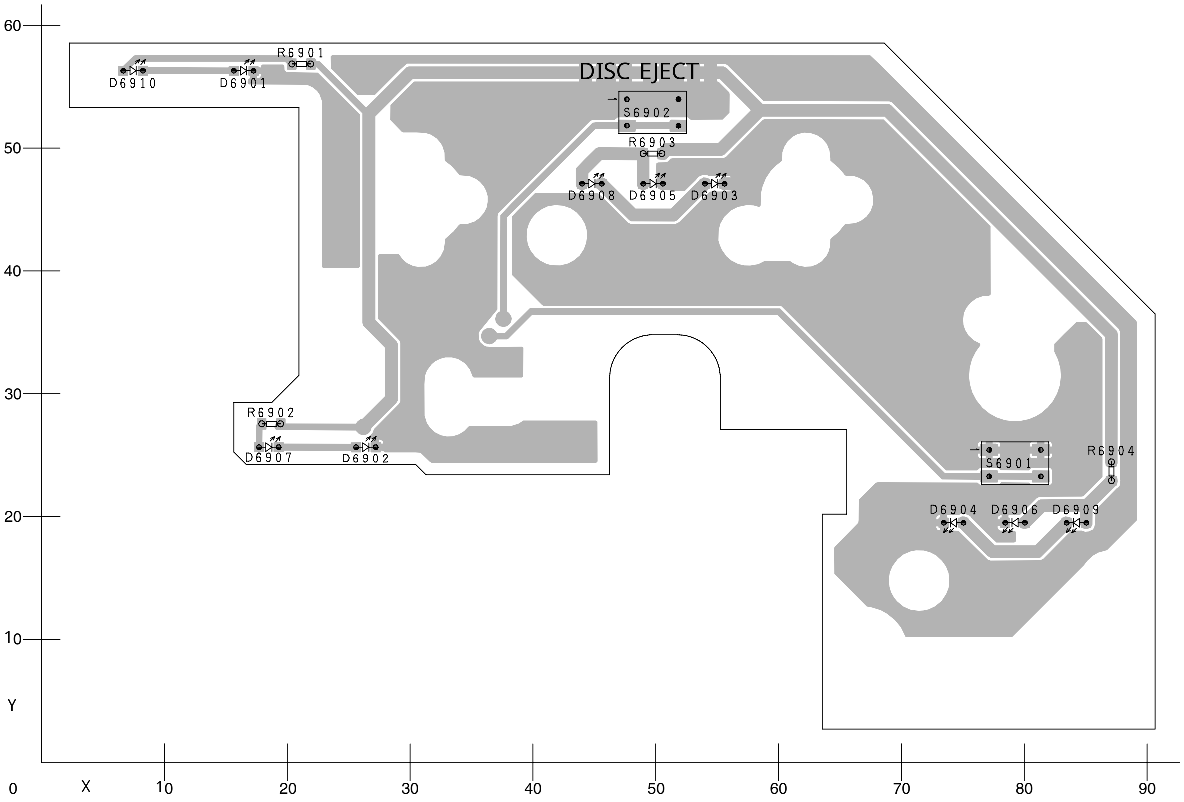

140
130
120
110
100
90
80
70
60
50
40
30
20
10
Y
0
X
10
20
30
R6807
Q6801
C6803
C6804
D6801
R6805
CN6802
A CN4151
R6809
R6810
IC6802
R6812
D CN1401
R6813
R6814
CN6803
IC6801
L6801
C6802
50
45
40
35
30
25
20
15
10
5
1

H

4.7 PANEL UNIT

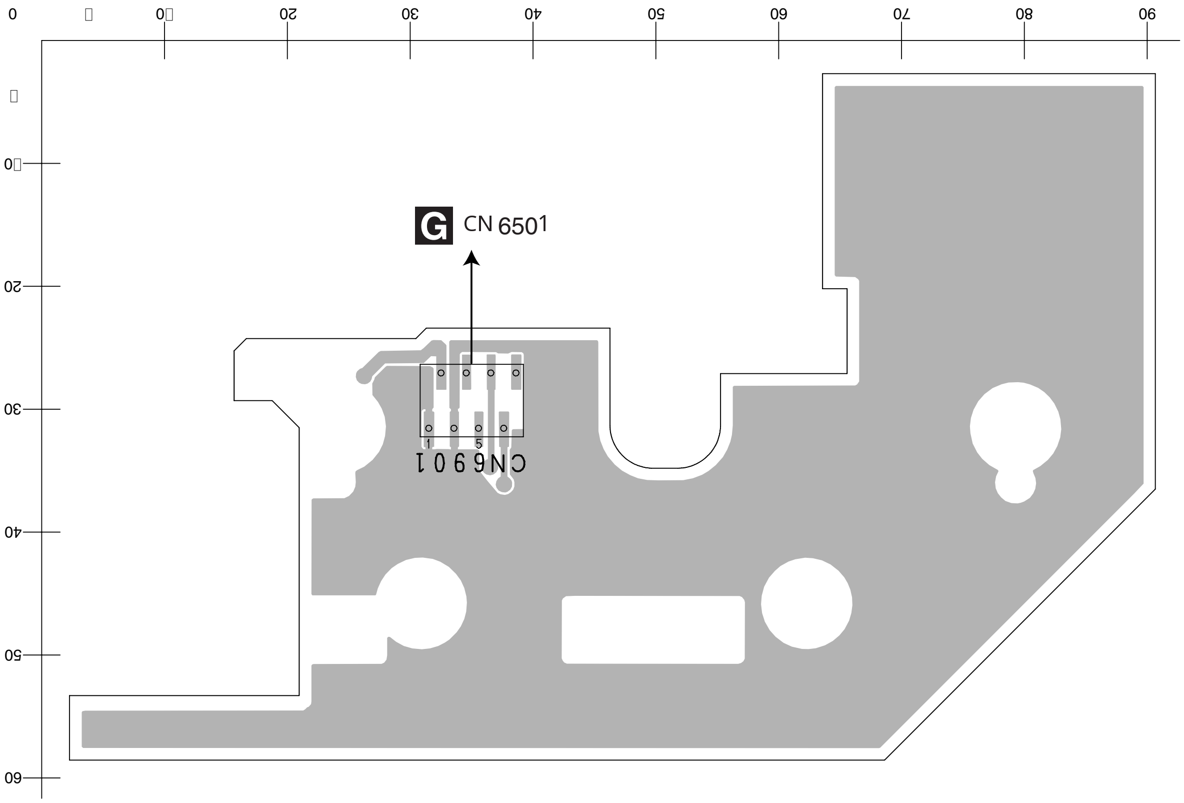
I PANEL UNIT

SIDE A


DISC EJECT
S6902
S6901
R6901
R6902
R6903
R6904
D6910
D6901
D6908
D6905
D6903
D6907
D6902
D6904
D6906
D6909
60
50
40
30
20
10
Y
0
X
10
20
30
40
50
60
70
80
90

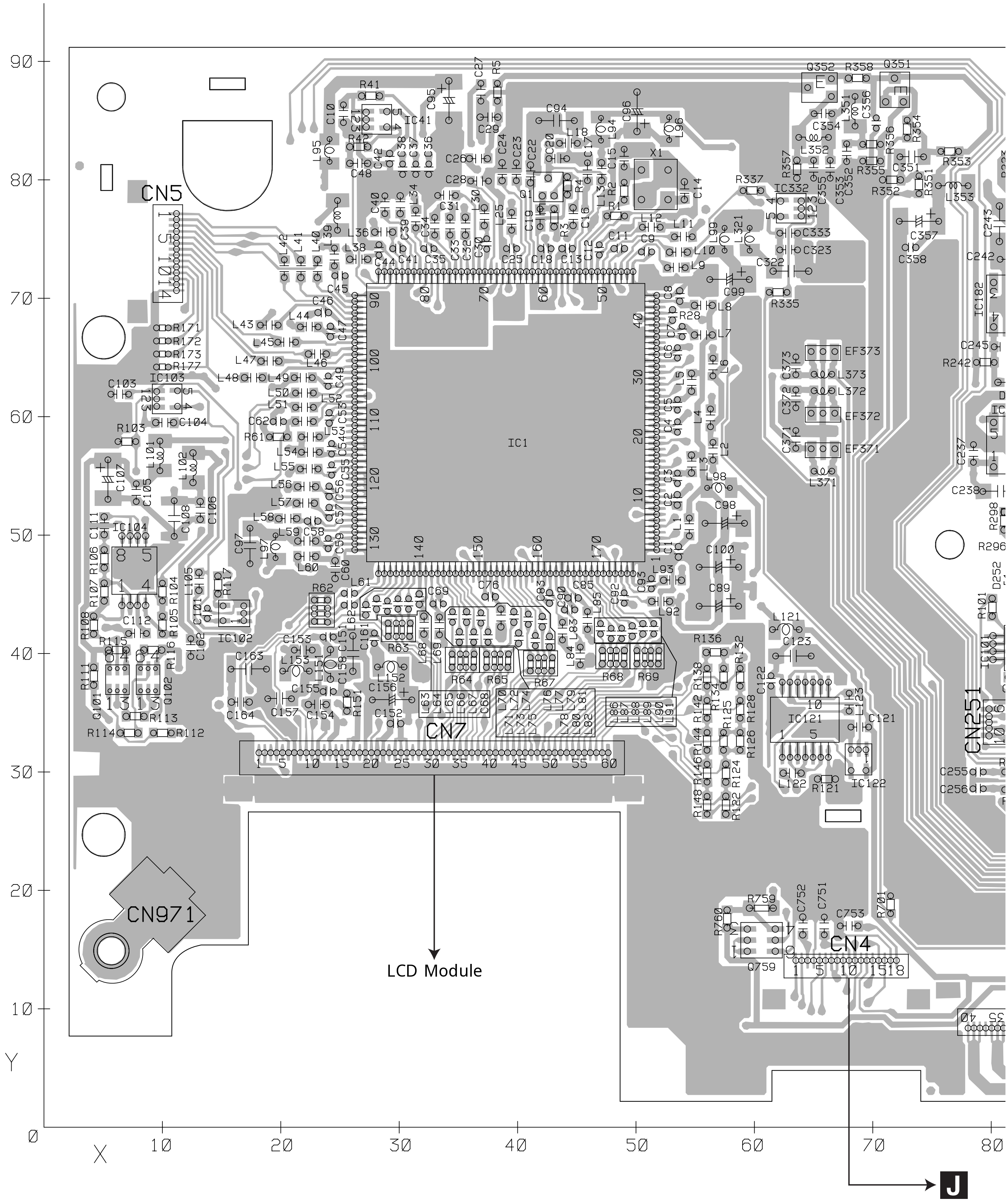
I PANEL UNIT

SIDE B


G CN 6501
CN6901
1
5

4.8 MONITOR UNIT

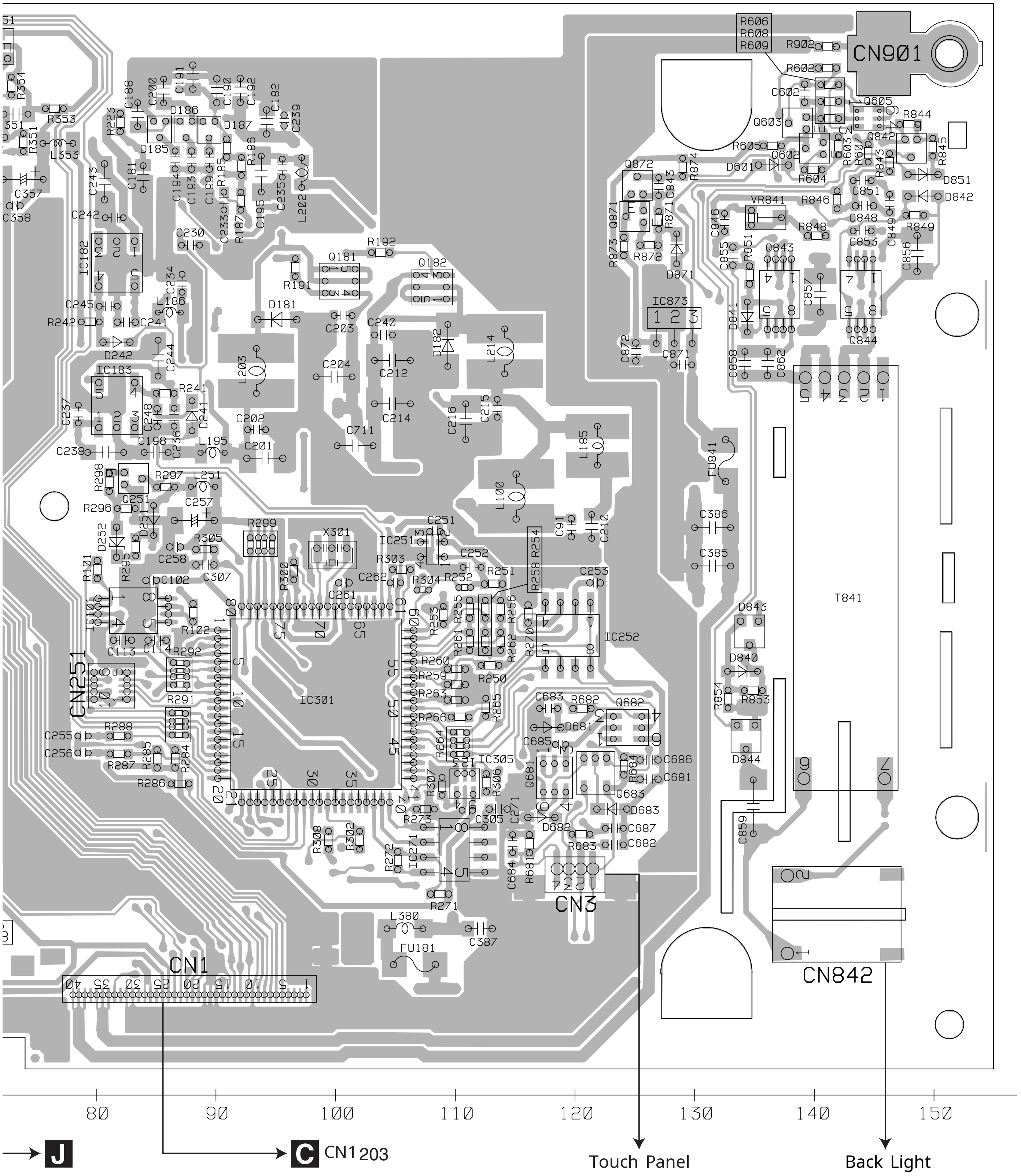
K MONITOR UNIT


CN5
IC1
CN7
CN971
CN4
CN251
IC103
IC104
IC102
IC121
IC122
IC41
IC332
IC182
IC101
X1
Q1
Q101
Q102
Q352
Q351
Q759
EF373
EF372
EF371
LCD Module
J
Y
X
0
10
20
30
40
50
60
70
80
90

K

SIDE A

FU 181 (A,108,10) Fuse 500 mA CEK1 251
FU 841 (A,134,52) Fuse 1.25 A CEK1 255


R606
R608
R609
R902
CN901
R602
C602
Q605
R844
Q603
Q842
R605
Q602
R603
R607
R843
R845
D601
R604
D851
D842
Q872
C843
R874
VR841
R846
C851
C848
R849
R848
C849
C853
C846
R871
Q871
R873
R872
D871
C855
R851
Q843
C856
IC873
C857
D841
Q844
C872
C871
C858
C862
T841
FU841
C386
C385
D843
D840
R854
R853
D844
C859
CN842
R354
R353
R351
L353
C357
C358
R223
C188
C200
C191
C190
C192
C182
C239
D186
D187
D185
R186
C243
C181
C194
C193
C199
R185
C235
L202
C242
C233
R187
C195
C230
IC182
R192
Q181
Q182
R191
C234
L186
C245
R242
C241
D181
C203
C240
D182
L214
D242
C244
IC183
R241
L203
C204
C212
C248
D241
C237
C236
C214
C216
C215
C202
C198
L195
C201
C711
C238
L185
R298
R297
L251
R296
Q251
C257
L100
D252
D251
R299
X301
C91
C210
R305
IC251
R254
R101
C258
R295
C307
R303
C252
R300
C262
R251
C253
C102
R304
R252
R258
C261
IC101
R253
R255
R256
R102
R261
R262
R270
IC252
C113
C114
R292
R260
CN251
R259
R250
R263
IC301
R291
R265
C683
R682
Q682
R266
D681
C255
R288
R264
C685
C686
C256
R285
R284
IC305
R684
C681
R287
Q681
R286
R306
R307
Q683
D683
R273
C305
C271
D682
C687
R308
R302
R683
C682
R272
IC271
C684
R681
CN3
R271
L380
C387
FU181
CN1
80
90
100
110
120
130
140
150
J
C
CN1 203
Touch Panel
Back Light

K

A

K MONITOR UNIT

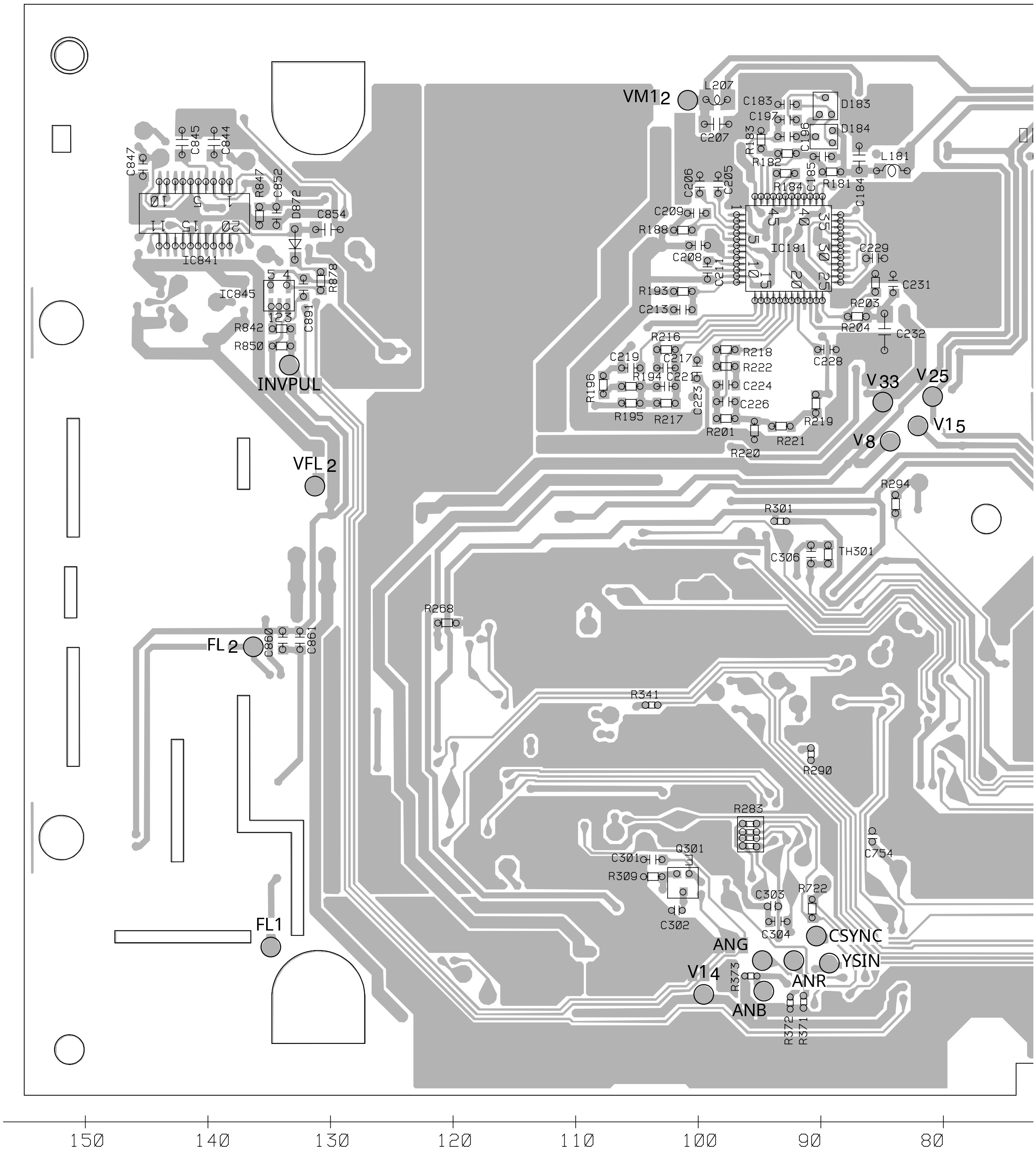
B

C

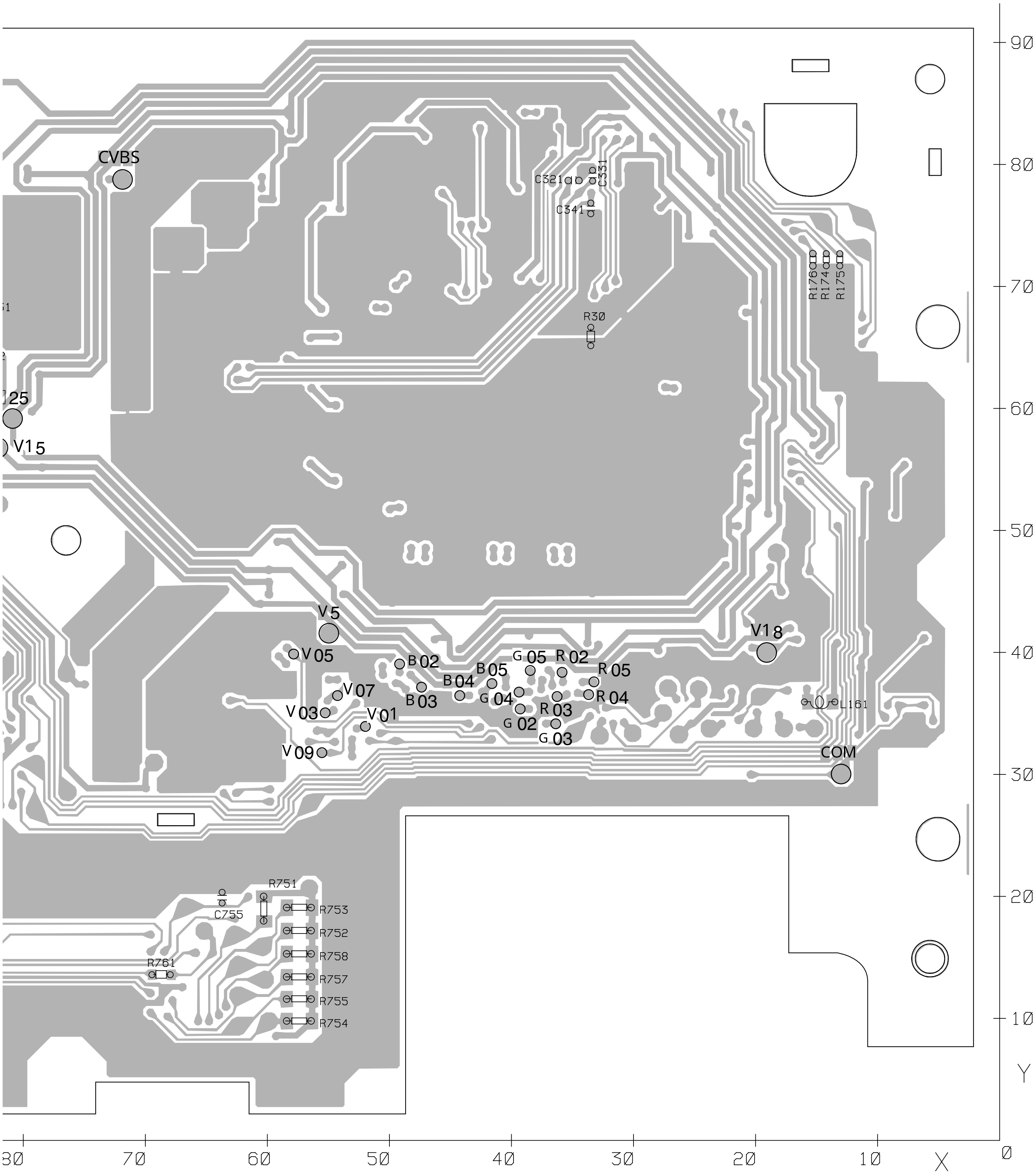
D

E

F


VM12
L207
C183
D183
C197
D184
C207
C196
R183
R182
C185
L181
C184
C206
C205
R184
R181
C209
45
40
35
R188
1
5
IC181
30
C229
C208
10
C211
15
20
25
C231
R193
C213
R203
R204
C232
R216
R218
C228
C219
C217
R222
R194
C221
C224
R196
C223
C226
V33
V25
R195
R217
R219
R201
R221
V15
V8
R220
C847
C845
C844
R847
C852
10
5
1
D872
C854
11
15
20
IC841
R878
IC845
5
4
123
C891
R842
R850
INVPUL
VFL2
R294
R301
TH301
C306
R268
FL2
C860
C861
R341
R290
R283
C754
Q301
C301
R309
C303
R722
C302
C304
CSYNC
ANG
YSIN
V14
ANR
R373
ANB
R372
R371
FL1
150
140
130
120
110
100
90
80

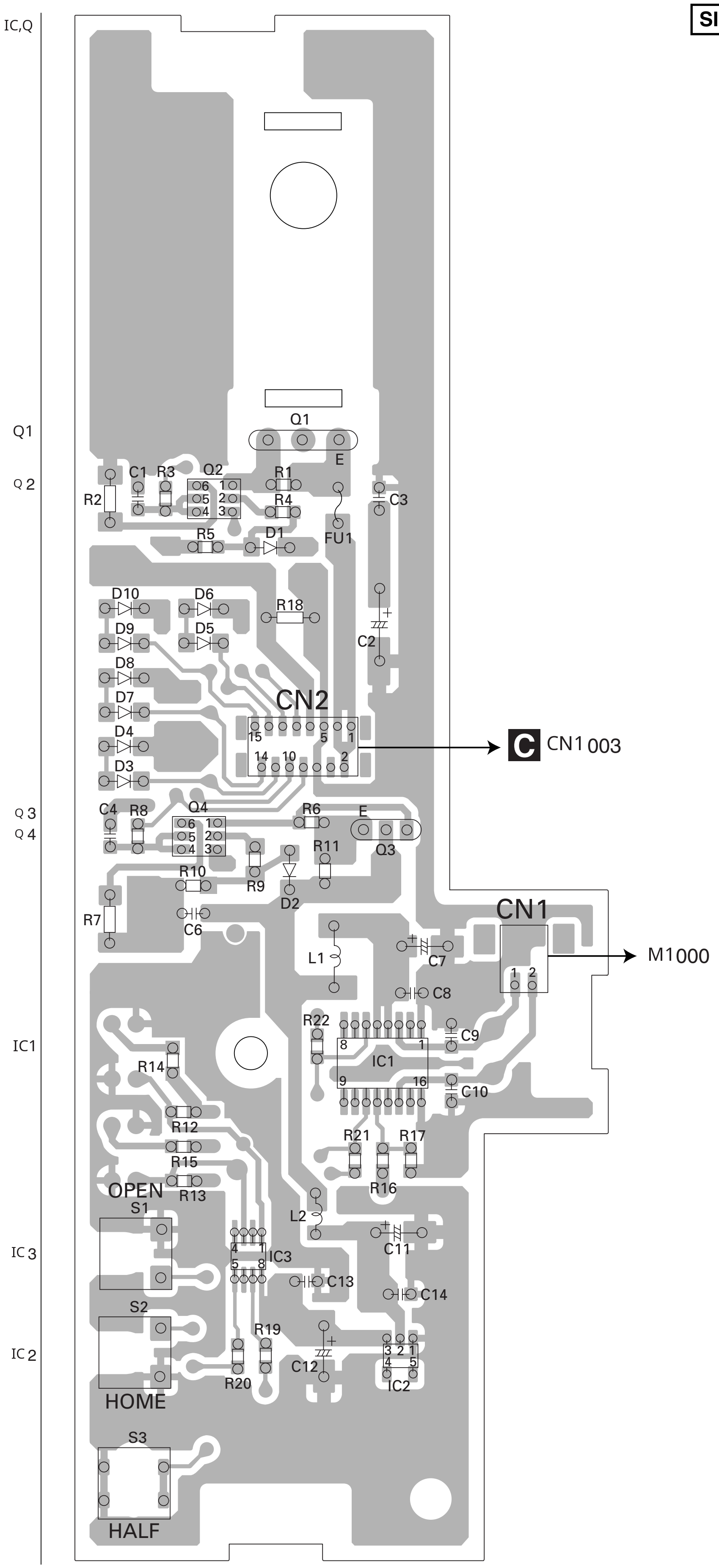
SIDE B


CVBS
C321
C331
C341
R176
R174
R175
R30
25
V15
V5
V05
B02
B04
B05
G05
R02
R05
V07
B03
G04
R04
V03
V01
G02
R03
G03
V09
V18
L161
COM
R751
C755
R753
R752
R758
R757
R755
R754
R761
90
80
70
60
50
40
30
20
10
Y
80
70
60
50
40
30
20
10
X
0

4.9 MAIN PCB UNIT

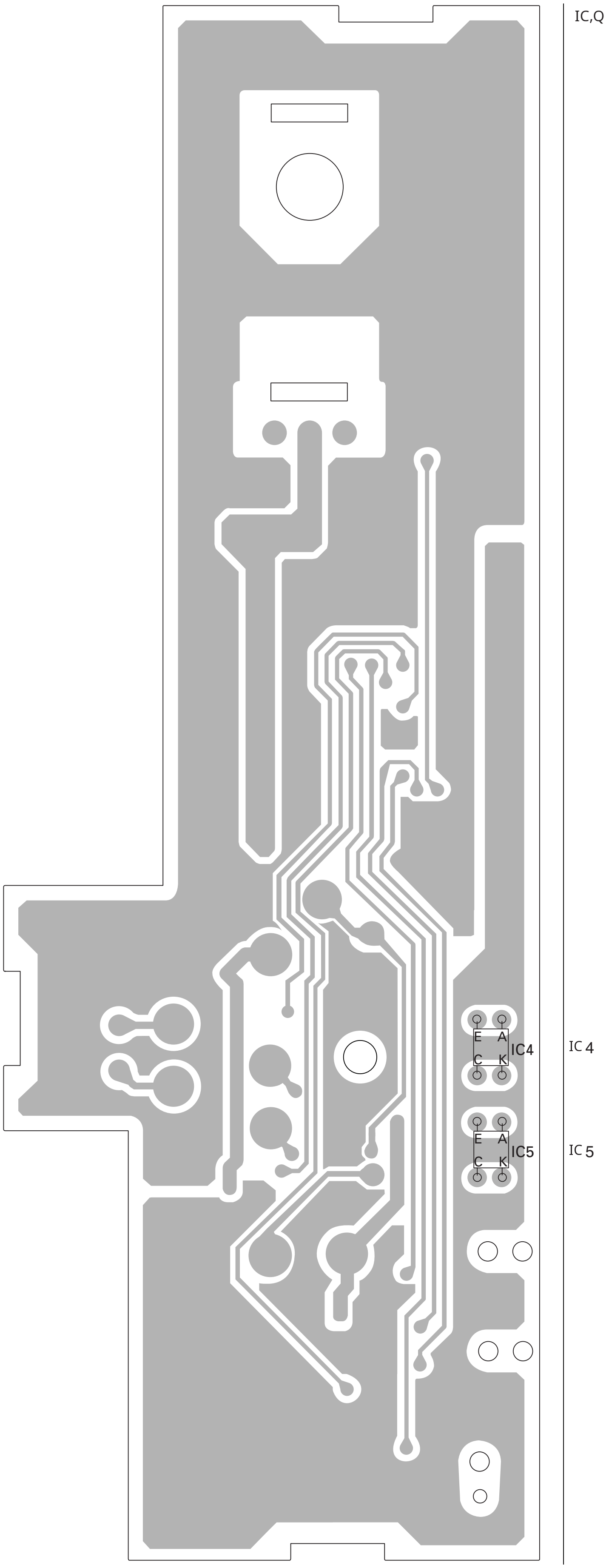
L MAIN PCB UNIT

SIDE A


IC,Q
Q1
Q 2
Q 3
Q 4
IC1
IC 3
IC 2
Q1
E
C1
R3
Q2
R1
R4
R2
C3
R5
D1
FU1
D10
D6
R18
D9
D5
C2
D8
CN2
D7
D4
D3
15
5
1
14
10
2
C CN1003
C4
R8
Q4
R6
E
R11
Q3
R10
R9
D2
R7
C6
CN1
L1
C7
M1000
1
2
C8
R22
C9
8
1
IC1
9
16
C10
R14
R12
R21
R17
R15
R16
OPEN
R13
S1
L2
C11
IC3
4
1
5
8
C13
C14
S2
R19
C12
3 2 1
4 5
R20
IC2
HOME
S3
HALF

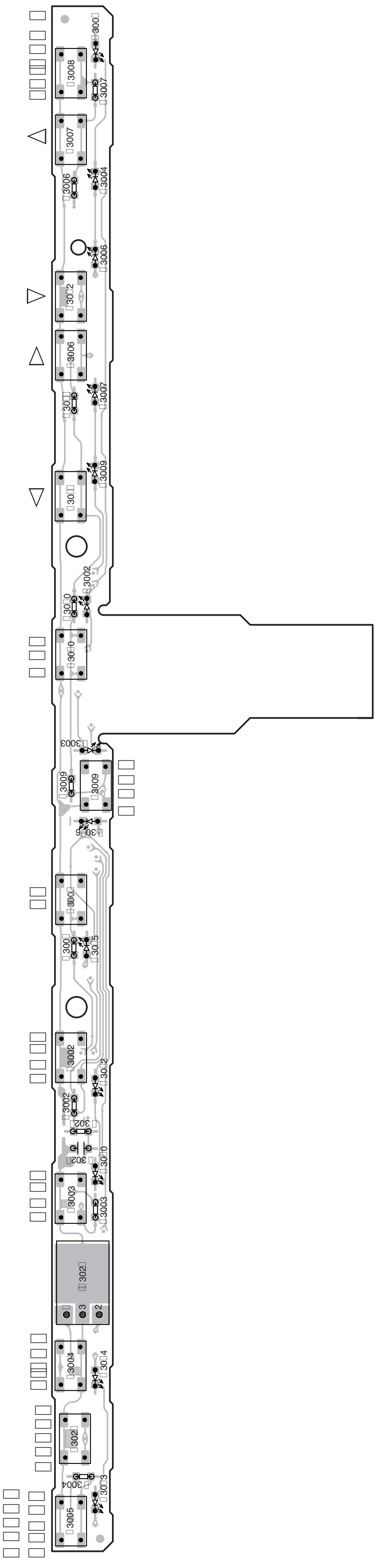
L MAIN PCB UNIT

SIDE B

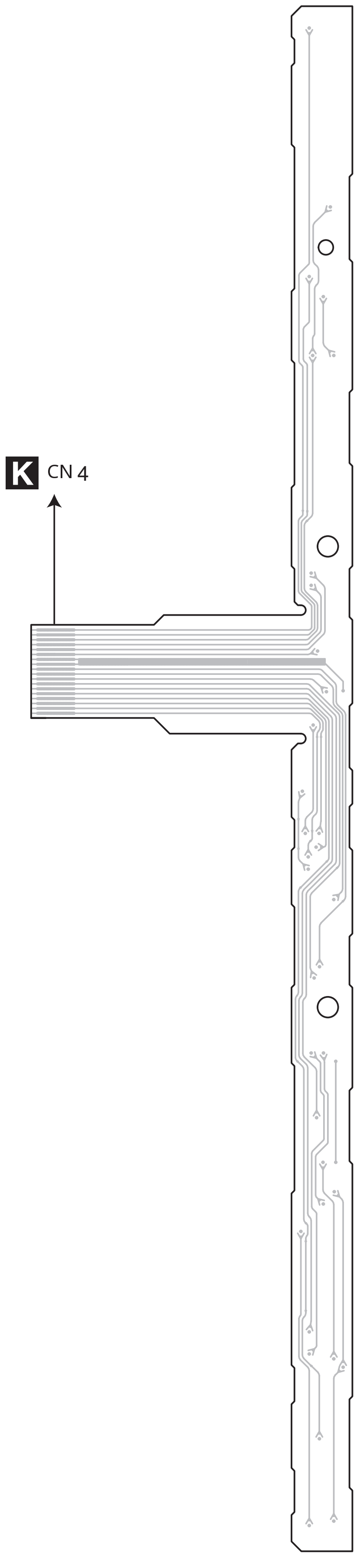

IC,Q
E
A
IC4
C
K
IC 4
E
A
IC5
C
K
IC 5

4.10 KEYBOARD UNIT

J KEYBOARD UNIT **SIDE A**


3008
3007
3006
3004
3002
3009
3003
3005
3004
3
2
J

J KEYBOARD UNIT **SIDE B**



5. ELECTRICAL PARTS LIST

NOTE:

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

Circuit Symbol and No. **Part No.**

Unit Number : CWX3304(UC)
Unit Number : CWX3305(EW5)
Unit Name : GPS Unit
Unit Number : CWN1583(UC)
Unit Number : CWN1633(EW5)
Unit Name : Audio Unit
Unit Number : CWX3301
Unit Name : DVD Core Unit
Unit Number : CWX3154
Unit Name : Compound Unit(A)
Unit Number : CWX3394
Unit Name : Compound Unit(B)
Unit Number : CWN1581(UC)
Unit Number : CWN1631(EW5)
Unit Name : Navi Mother Unit
Unit Number : CWN1586
Unit Name : Panel Unit
Unit Number : CWN1585(UC)
Unit Number : CWN1635(EW5)
Unit Name : Keyboard Unit
Unit Number : CWN1584(UC)
Unit Number : CWN1634(EW5)
Unit Name : Monitor Unit
Unit Number : CZW5026
Unit Name : Main PCB Unit

B

Unit Number : CWX3304(UC)
Unit Number : CWX3305(EW5)
Unit Name : GPS Unit

MISCELLANEOUS

Circuit Symbol and No.		Part No.
IC 401	(A,24,15) IC	UPC2749T
IC 402	(B,19,26) IC	UPB1027GS
IC 441	(A,31,29) IC	NJM2100V
IC 461	(B,28,9) IC	ADC12H034CIMSAS1
IC 501	(B,49,24) IC	PD3390A
IC 502	(B,47,8) IC(UC)	PEH026A
IC 502	IC(EW5)	PEH027A
IC 503	(A,48,27) IC	M5M5V216ATP-70HI
IC 504	(A,30,13) IC	MAX6364PUT29
IC 532	(A,46,14) IC(EW5)	LC72720YVSS1
Q 441	(A,31,21) Transistor	2SB1132
D 401	(B,10,26) Diode	1SV314
D 501	(B,34,29) Diode	RB751V-40
L 401	(B,10,27) Inductor	CTF1549
L 402	(B,25,21) Inductor	CTF1486
L 403	(B,26,25) Inductor	CTF1486
L 404	(A,20,21) Inductor	LCSA3N3R1608
L 405	(B,12,23) Inductor	LCYB22NJ1608
L 406	(B,14,19) Inductor	LCYB22NJ1608
L 407	(A,18,31) Inductor	CTF1410
L 408	(B,25,30) Inductor(UC)	CTF1556
L 408	Inductor(EW5)	CTF1410
L 409	(B,17,10) Inductor	LCYC1R0K2125
L 410	(B,25,16) Inductor	CTF1547
L 412	(A,24,25) Inductor	CTF1547
L 413	(A,24,24) Inductor	CTF1547
L 414	(A,24,31) Inductor	CTF1547
L 415	(A,25,28) Inductor	CTF1547
L 416	(A,25,27) Inductor	CTF1547
L 417	(B,24,19) Inductor	CTF1547
L 418	(A,13,32) Inductor	CTF1410
L 441	(B,31,19) Inductor	CTF1410
L 442	(A,28,24) Inductor	CTF1410
L 461	(A,27,7) Inductor	CTF1410
L 462	(A,30,7) Inductor	CTF1410
L 467	(B,32,15) Inductor	CTF1547
L 468	(B,31,15) Inductor	CTF1547
L 469	(A,31,9) Inductor	CTF1410
L 501	(B,37,15) Inductor	CTF1410
L 502	(B,35,30) Inductor	CTF1410

Circuit Symbol and No.		Part No.
L 503	(B,58,5) Inductor	CTF1410
L 504	(A□37,32) Inductor	CTF1410
L 531	(A,52,16) Inductor	CTF1410
X 401	(A,13,26) TCXO 16□368 MHz	CWX2381
X 501	(A,36,25) Radiator 32.768 kHz	CSS1319
X 502	(B,35,25) Radiator 20□00 MHz	CSS1549
X 532	(A,57,14) Radiator 4.332 MHz(EW5)	CSS1550
F 401	(A,22,22) Filter	CTF1548

RESISTORS

Circuit Symbol and No.		Part No.
R 401	(B,10,25)	RS1/16SS472J
R 402	(B,11,29)	RS1/16SS472J
R 403	(B,13,30)	RS1/16SS122J
R 404	(B,13,29)	RS1/16SS622J
R 405	(A,22,25)	RS1/16SS100J
R 406	(B,25,28)	RS1/16S271J
R 407	(B,24,17)	RS1/16S2R2J
R 441	(A,29,25)	RN1/16SC10R0D
R 442	(B,31,22)	RN1/16SE1501D
R 443	(B□30,22)	RN1/16SE2402D
R 444	(B,30,25)	RN1/16SE3302D
R 445	(B□30,32)	RN1/16SE4702D
R 446	(B,28,31)	RN1/16SE4702D
R 447	(A,32,24)	RS1/16S432J
R 448	(B□31,29)	RN1/16SE1002D
R 449	(B,32,31)	RN1/16SE2202D
R 450	(B□30,31)	RN1/16SE3302D
R 451	(A,27,31)	RS1/16S103J
R 452	(B,32,26)	RS1/16SS102J
R 454	(B□32,25)	RS1/16SS102J
R 460	(B,21,12)	RS1/16S0R0J
R 461	(A□36,4)	RS1/16SS102J
R 462	(A,37□8)	RS1/16SS102J
R 463	(B,34,11)	RAB4CQ102J
R 464	(A□34,11)	RAB4CQ333J
R 465	(A,37□6)	RS1/16SS102J
R 468	(A,56,7) (EW5)	RS1/16SS471J
R 469	(A,57,5) (EW5)	RAB4CQ471J
R 470	(B,34□6)	RAB4CQ471J
R 471	(B□34,2)	RAB4CQ104J
R 477	(B,30,15)	RS1/16SS222J
R 478	(B,29,15)	RS1/16SS222J
R 479	(B,27,14)	RS1/16SS222J
R 480	(B,27,15)	RS1/16SS332J
R 481	(B,29,16)	RS1/16SS332J
R 482	(A,37,5)	RS1/16SS223J
R 483	(A□37,4)	RS1/16SS473J
R 501	(B,38,26)	RS1/16SS0R0J
R 502	(B,37,27)	RS1/16SS102J
R 503	(B□37,24)	RS1/16SS154J
R 508	(B,59,13) (UC)	RS1/16SS103J
R 508	(EW5)	RS1/16SS472J
R 509	(B,33,13)	RS1/16SS473J
R 510	(A,36□6)	RS1/16SS102J
R 511	(A□33,18)	RS1/16SS103J
R 512	(B,38,29)	RS1/16SS473J
R 513	(B,59,14)	RS1/16SS103J
R 514	(B,38,27)	RS1/16SS473J
R 515	(A,29,10)	RS1/16SS473J
R 517	(B,38,21)	RS1/16SS103J
R 519	(B□38,19)	RS1/16SS473J
R 521	(B,36,27)	RS1/16SS473J
R 532	(A,42□9) (EW5)	RS1/16SS104J
R 533	(A,38,17) (UC)	RS1/16SS103J
R 533	(EW5)	RS1/16SS332J
R 534	(A,39,18)	RS1/16SS103J
R 535	(A,37,11)	RS1/16SS103J
R 536	(A,37,17)	RS1/16SS0R0J
R 537	(A,37,14) (EW5)	RS1/16S0R0J
R 538	(A,37,16) (EW5)	RS1/16SS0R0J

CAPACITORS

Circuit Symbol and No.		Part No.
C 401	(A,24,12)	CCSRCH100D50
C 402	(A,23,19)	CCSSCH101J50
C 403	(A,26,14)	CKSSYB104K10
C 404	(A,19,23)	CCSSCH101J50
C 405	(B,13,26)	CCSRUJ220J50
C 406	(B,13,27)	CCSRUJ220J50
C 407	(B,12,30)	CKSSYB333K16
C 408	(B,11,30)	CKSSYB182K50
C 409	(A,20,28)	CSZS100M6R3
C 410	(B,26,31)	CKSSYB103K16
C 411	(A,20,25)	CKSSYB102K50
C 412	(A,19,26)	CKSSYB102K50
C 413	(A,19,29)	CKSSYB104K10
C 414	(A,22□30)	CKSSYB104K10
C 415	(A,23,29)	CKSSYB104K10
C 416	(A,23,26)	CKSSYB104K10
C 417	(B,23,20)	CKSSYB104K10
C 418	(A,20□31)	CKSSYB102K50
C 419	(B,38,31)	CKSSYB104K10
C 420	(A,13□31)	CKSSYB104K10
C 421	(B,24,26)	CKSSYB102K50
C 422	(B,24,25)	CKSSYB103K16
C 423	(B,24,23)	CKSSYB104K10
C 424	(B,26,21)	CCSRCH102J50
C 425	(B,27,22)	CCSRCH271J50
C 426	(B,27,25)	CCSRCH102J50
C 427	(B,24,24)	CKSSYB104K10
C 428	(B,13,23)	CKSSYB103K16
C 429	(B,11,22)	CCSRCH301J50
C 430	(B,11,20)	CCSSCH120J50
C 431	(B,12,19)	CCSRCH301J50
C 432	(B,15,20)	CKSSYB103K16
C 433	(B,18□8)	CCSRCH101J50
C 434	(B,17,13)	CKSSYB102K50
C 435	(B,18,13)	CKSSYB103K16
C 436	(B,30,20)	CKSSYB104K10
C 441	(B□30,26)	CKSRYB104K16
C 442	(A,29,27)	CCSRCH101J50
C 443	(A,29□31)	CKSRYB104K16
C 444	(B□31,20)	CKSSYB103K16
C 445	(A,28,29)	CKSSYB104K10
C 461	(A,27□3) 22 μF□6.3 V	CCH1408
C 462	(A,30□8)	CKSRYB104K16
C 463	(A,26,7)	CKSRYB104K16
C 464	(B□30,4)	CKSSYB103K16
C 465	(B,30,2)	CKSSYB103K16

A B C D E F

Circuit Symbol and No.		Part No.
C 466	(B,31,2)	CKSSYB103K16
C 467	(B□32,2)	CKSSYB103K16
C 468	(A,29□9)	CKSSYB104K10
C 469	(B,25,3)	CSZS100M10
C 470	(B,25,14)	CKSSYB104K10
C 471	(B,35,4)	CCSSCH101J50
C 501	(B□38,18)	CKSSYB104K10
C 502	(B,35,21)	CCSRCH150J50
C 503	(B,37,21)	CCSRCH150J50
C 504	(B,39,15)	CKSSYB104K10
C 506	(B,59,18)	CKSSYB104K10
C 507	(B,59,20)	CKSSYB104K10
C 508	(B,59,24)	CKSSYB104K10
C 509	(B,59,29)	CKSSYB104K10
C 511	(B,39,33)	CKSSYB104K10
C 512	(B,37,30)	CKSSYB104K10
C 514	(A,30,15)	CSZS100M6R3
C 515	(B,38,23)	CKSSYB104K10
C 516	(B,58,10)	CKSSYB104K10
C 517	(A,49,20)	CKSSYB104K10
C 518	(A,38,30)	CKSSYB104K10
C 535	(A,53,14) (EW5)	CSZS100M6R3
C 539	(A,53,18) (EW5)	CCSRCH100D50
C 540	(A,52,11) (EW5)	CCSRCH100D50
C 541	(A,46□8) (EW5)	CCSRCH561J50
C 542	(A,43□9) (EW5)	CKSSYB104K10
C 543	(A,39,11) (EW5)	CSZS100M6R3
C 544	(A,49□9) (EW5)	CCSRCH331J50
C 545	(A,52,14) (EW5)	CKSSYB104K10

C

Unit Number : CWN1583(UC)
Unit Number : CWN1633(EW5)
Unit Name : Audio Unit

MISCELLANEOUS

Circuit Symbol and No.		Part No.
IC 1200	(B,104,22) IC	NJM2235M
IC 1201	(B□93,22) IC	NJM2246M
IC 1202	(B,116,23) IC	NJM2235M
IC 1204	(B,125,103) IC	TK15405BMI
IC 1270	(B,117,110) IC	NJM2137V
IC 1401	(A,98,139) IC	PAL007B
IC 1402	(B,104,75) IC	PML009A
IC 1403	(A,172□93) IC	BA00CC0WT
IC 1486	(B,76,74) IC	BA3121F
IC 1501	(B,57,33) IC	NJM2060V
IC 1520	(B□63,59) IC	TC4052BFT
IC 1530	(B,55,59) IC	NJM2125F
IC 1621	(B,104,103) IC	NJM2060V
IC 1802	(B,138,114) IC	TPD1018F
IC 1821	(A,142□53) IC(EW5)	M5237ML
IC 1850	(B□64□93) IC	M5237ML
IC 1900	(A,111□34) IC	NJM2505F
IC 1901	(A,39,37) IC	NJM2505F
IC 1940	(A,91,46) IC	BA3121F
IC 1960	(B,58,45) IC	BA3121F
IC 2501	(A,35□60) IC	NJM2391DL1-33
Q 1001	(B,147,113) Transistor	2SC4116
Q 1004	(B,123,120) Transistor	2SC4081
Q 1006	(A,129,121) Transistor	DTC114EU
Q 1200	(A,114,14) Transistor	2SA1385-ZS1
Q 1201	(A,123,15) Transistor	DTC114EU
Q 1202	(A,73,28) Transistor	2SA1797
Q 1203	(A□85,29) Transistor	DTC114EU
Q 1204	(B□69,23) Transistor	2SC4081
Q 1205	(B,76,23) Transistor	2SA1577
Q 1206	(A,126□60) Transistor	2SD1760F5
Q 1207	(A,172,32) Transistor	2SB1185
Q 1242	(B□98,27) Transistor	IMD3A
Q 1350	(B□69,13) Transistor	IMD3A
Q 1420	(B,106,118) Transistor	FMG12
Q 1421	(B,75,106) Transistor	FMG12
Q 1422	(B,75,115) Transistor	FMG12
Q 1430	(B□92,123) Transistor	2SC4081
Q 1431	(B□98,123) Transistor	DTC114EU
Q 1432	(B□98,118) Transistor	IMD3A
Q 1470	(B□89,110) Transistor	IMD3A
Q 1521	(A□66,59) Transistor	DTC114EU
Q 1540	(B,71,59) Transistor	FMG12
Q 1541	(B,71,53) Transistor	2SC2412K
Q 1542	(B,71□64) Transistor	2SC2412K
Q 1611	(B,100□94) Transistor	DTC323TK
Q 1612	(B,108□95) Transistor	DTC323TK
Q 1613	(B□98□90) Transistor	IMD3A
Q 1614	(B,108□92) Transistor	IMD3A
Q 1821	(A,134,50) Transistor(EW5)	2SB1184F5
Q 1822	(A,123,50) Transistor(EW5)	2SB1260
Q 1823	(A,133,40) Transistor(EW5)	DTC114EU
Q 1830	(B,136□64) Transistor	IMX1
Q 1840	(A,172,104) Transistor	2SB1185
Q 1841	(B,139,100) Transistor	IMX1
Q 1850	(A□54□97) Transistor	2SB1185
Q 1851	(B,47□95) Transistor	2SB1260
Q 1852	(B□60,102) Transistor	DTC114EU
Q 2501	(B,32,33) Transistor(EW5)	DTC124EU
Q 2502	(B,27□33) Transistor(EW5)	DTC124EU
Q 2503	(B,32,36) Transistor(EW5)	DTC124EU
Q 2504	(B,26□37) Transistor(EW5)	DTC124EU
Q 2550	(A,23,124) Transistor(EW5)	2SC3357
Q 2551	(B,20,116) Transistor(EW5)	2SC3127
Q 2800	(B,148,73) Transistor(EW5)	2SC3545
Q 2801	(B,144,58) Transistor(EW5)	DTC144EK
Q 2802	(B,141,55) Transistor(EW5)	DTC144EK
D 1001	(B,157,146) Diode	PTZ18A
D 1004	(B,149,116) Diode	UDZS5R1(B)
D 1005	(B,122,113) Diode	HZU6R8(B2)
D 1006	(A,151,128) Diode	PTZ27(B)
D 1007	(A,139,102) Diode	KS926S2
D 1008	(B,156,123) Diode	UDZS18(B)
D 1009	(B,156,127) Diode	UDZS18(B)
D 1010	(B,154,123) Diode	1SS355
D 1011	(A,130,111) Diode	1SR154-400
D 1013	(A,174,136) Diode	5KP22A
D 1030	(A□53,115) Diode	1SS355
D 1031	(A□51,115) Diode	1SS355
D 1050	(B,58,138) Diode	UDZS5R6(B)
D 1051	(B,55,120) Diode	UDZS5R6(B)
D 1070	(B,133,130) Diode	DAN202U
D 1071	(B,136,133) Diode	PTZ27(B)

Circuit Symbol and No.		Part No.
D 1202	(A,135,66) Diode	UDZS5R6(B)
D 1203	(B,140,65) Diode	HZU8R2(B1)
D 1204	(B,129,129) Diode	UDZS6R8(B)
D 1205	(B,131,127) Diode	UDZS6R8(B)
D 1206	(A,67,120) Diode	UDZS6R8(B)
D 1207	(A, 70,116) Diode	UDZS6R8(B)
D 1208	(B,65,119) Diode	UDZS6R8(B)
D 1209	(B,67,121) Diode	UDZS6R8(B)
D 1210	(B,125,135) Diode	UDZS6R8(B)
D 1211	(B,122,135) Diode	UDZS6R8(B)
D 1401	(A,116,96) Diode	UDZS4R7(B)
D 1405	(B,131,130) Diode	AVR-M1608C080MTAAB
D 1406	(B,131,133) Diode	AVR-M1608C080MTAAB
D 1407	(B,133,134) Diode	AVR-M1608C080MTAAB
D 1408	(B,131,135) Diode	AVR-M1608C080MTAAB
D 1410	(B,109,126) Diode	1SR154-400
D 1412	(B,139,130) Diode	PTZ27(B)
D 1420	(B,102,118) Diode	DAP202K
D 1430	(B,88,117) Diode	MA111
D 1501	(A, 74, 35) Diode	UDZS4R7(B)
D 1530	(B, 55,64) Diode	1SS355
D 1531	(A, 55, 58) Diode	EDZ4R3(B)
D 1540	(A, 79,61) Diode	DAP202U
D 1541	(A,82,62) Diode	DAN202U
D 1611	(B,97,86) Diode	DAN202K
D 1612	(B,107,88) Diode	DAN202K
D 1803	(B,142,122) Diode	PTZ27(B)
D 1804	(B,145,120) Diode	1SR154-400
D 1840	(B,146,101) Diode	HZU7R5(B2)
D 1841	(B,149,95) Diode	RSX201L-30
D 1905	(A,65,119) Diode	UDZS6R8(B)
D 1906	(A,64,117) Diode	UDZS6R8(B)
D 2501	(B, 38, 56) Diode	1SR154-400
D 2502	(B,38, 59) Diode	1SR154-400
D 2503	(B, 38,62) Diode	1SR154-400
D 2800	(B,144, 47) Diode(EW5)	HZU3R3(B1)
ZNR2501	(B,31,108) Surge Protector	RCCA-201Q31UA-PI
L 1001	(B,159,144) Inductor	CTF1410
L 1002	(B,149,123) Inductor	CTF1410
L 1003	(B,153,125) Inductor	CTF1410
L 1004	(A,162,119) Choke Coil 600 mH	CTH1213
L 1030	(A, 52,122) Inductor	CTF1556
L 1050	(B, 54,138) Inductor	CTF1334
L 1051	(B, 57,122) Inductor	CTF1334
L 1070	(B,139,134) Inductor	LCTC2R2K1608
L 1200	(A,103,15) Inductor	CTH1256
L 1201	(B, 77,18) Inductor	CTF1306
L 1202	(A,69, 27) Inductor	CTF1410
L 1203	(A,103,39) Inductor	CTF1410
L 1204	(A,98, 36) Inductor	CTF1410
L 1206	(A,116, 39) Inductor	CTF1410
L 1207	(A,123,97) Inductor	LCTAW100J3225
L 1270	(B,114,106) Chip Ferrite Bead	CTF1399
L 1400	(B,103,65) Inductor	LCTAW2R2J2520
L 1430	(B,88,122) Inductor	CTF1410
L 1486	(A,81, 74) Inductor	LCYC2R2K2125
L 1487	(A,81, 72) Inductor	LCYC2R2K2125
L 1540	(A, 78, 56) Inductor	LCTAW101J2520
L 1830	(A, 41,10) Inductor	CTF1379
L 1940	(A,96, 55) Inductor	LCYC2R2K2125

Circuit Symbol and No.		Part No.
L 1960	(B, 49, 51) Inductor	LCYC2R2K2125
L 2501	(B, 28,85) Chip Coil	LCTAW4R7J2520
L 2502	(A, 32,67) Inductor	LCTAW2R2J3225
L 2503	(B, 28, 45) Inductor	LCTAW2R2J2520
L 2504	(B, 32, 45) Chip Ferrite Bead	CTF1399
L 2505	(B, 28, 40) Inductor	LCTAW2R2J3225
L 2506	(B, 43,60) Chip Coil	LCTAW1R0J2520
L 2550	(A, 21,133) Inductor(EW5)	LCTAWR12J2520
L 2551	(A, 24,130) Inductor(EW5)	LCYCR10K2125
L 2552	(B, 25,118) Inductor(EW5)	LCYCR10K2125
L 2553	(A, 23,116) Coil(EW5)	CTC1143
L 2554	(B, 26,104) Inductor(EW5)	LCTAW101J2520
L 2555	(B,18,129) Inductor(EW5)	LCTAW101J2520
L 2556	(B, 23,115) Inductor(EW5)	LCYCR18K2125
L 2557	(A,17,124) Coil(EW5)	CTC1142
L 2558	(A,16,113) Coil(EW5)	CTC1139
L 2800	(B,148, 76) Inductor(EW5)	LCYCR22K2125
L 2801	(B,136, 50) Chip Ferrite Bead(EW5)	CTF1557
L 2802	(B,148,65) Chip Coil(EW5)	LCTAW1R0J2520
L 2803	(B,144, 43) Inductor(EW5)	LCTAW2R2J2520
L 2804	(B,146, 49) Chip Coil(EW5)	LCTAW1R0J2520
VR1200	(A,68,17) Semi-fixed 1 KΩ(OB)	CCP1390
⚠FU1001	(B,134,121) Fuse 750 mA	CEK1279
⚠FU1200	(A,175,87) Fuse 2.5 A	CEK1285
⚠FU1201	(A,116,123) Fuse 3.15 A	CEK1259
⚠FU1204	(A, 74,126) Fuse 3.15 A	CEK1259
⚠FU1400	(A, 77,127) Fuse 3 A	CEK1286
⚠FU1820	(A,125, 45) Fuse 750 mA(EW5)	CEK1279
⚠FU1840	(B,131,87) Fuse 2.5 A	CEK1258
⚠FU1850	(B, 47, 91) Fuse 630 mA	CEK1252
Y 2600	(A,153,60) Tuner Unit(EW5)	CWE2023
EF1201	(A,130,135) EMI Filter	CCG1067
EF1202	(A,64,124) EMI Filter	CCG1067
EF1203	(A,67,124) EMI Filter	CCG1067
EF1402	(A,132,135) EMI Filter	CCG1067
EF1404	(A,135,135) EMI Filter	CCG1067
EF1421	(A,118,128) EMI Filter	CCG1067
EF1422	(A,121,128) EMI Filter	CCG1067
EF1423	(A,120,135) EMI Filter	CCG1067
EF1424	(A,122,135) EMI Filter	CCG1067
EF1425	(A,124,135) EMI Filter	CCG1067
EF1426	(A,127,135) EMI Filter	CCG1067

RESISTORS

R 1001	(A,143,122)	RS1/4S102J
R 1002	(B,154,145)	RS1/4S103J
R 1003	(B,151,114)	RS1/16S473J
R 1004	(B,151,115)	RS1/16S104J
R 1008	(B,150,119)	RS1/16S102J
R 1009	(B,152,119)	RS1/16S472J
R 1010	(B,150,121)	RS1/4S102J
R 1012	(B,121,118)	RS1/16S223J
R 1013	(B,123,116)	RS1/16S223J
R 1014	(B,132,118)	RS1/4SA472J
R 1016	(A,130,115)	RS1/16S103J
R 1017	(A,134,118)	RS1/4SA472J
R 1018	(A,134,114)	RS1/4SA102J
R 1030	(A, 53,118)	RS1/10S103J
R 1070	(B,139,135)	RS1/16S153J

Circuit Symbol and No.		Part No.	Circuit Symbol and No.		Part No.
□ □200	□□ □23□2□	□□□□4□□33□□	□ □428	□□ □□□6□	□□□□6□223□
□ □20□	□□ □27□3□	□□□□4□□33□□	□ □429	□□ □07□24□	□□□□6□47□□
□ □202	□□ □2□□5□	□□□□6□□53□	□ □430	□□ □2□□6□	□□□□6□47□□
□ □203	□□ 8□3□□	□□□□4□□47□□	□ □43□	□□94□□8□	□□□□6□□02□
□ □204	□□ 84□33□	□□□□4□□47□□	□ □432	□□90□20□	□□□□6□□03□
□ □205	□□ 8□29□	□□□□6□□53□	□ □433	□□ □0□□25□	□□□□6□□03□
□ □206	□□70□8□	□□□□6□39□□	□ □434	□□95□27□	□□□□6□□03□
□ □207	□□70□20□	□□□□6□0□0□	□ □435	□□85□22□	□□□□4□□□02□
□ □208	□□65□5□	□□□□6□332□	□ □436	□□76□03□	□□□□6□68□□
□ □209	□□73□20□	□□□□6□362□	□ □437	□□76□09□	□□□□6□68□□
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□ □24□	□□92□28□	□□□□6□□0□□	□ □464	□□ □23□3□□	□□□□6□□03□
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□ □245	□□96□28□	□□□□6□□02□	□ □468	□□ □□7□54□	□□□□6□0□0□
□ □270	□□ □24□29□	□□□□6□□750□	□ □469	□□ □□7□52□	□□□□6□0□0□
□ □27□	□□ □27□26□	□□□□6□□□03□	□ □470	□□92□□0□	□□□□6□□02□
□ □272	□□ □28□26□	□□□□6□□□03□	□ □480	□□80□78□	□□□□6□220□
□ □273	□□ □□9□22□	□□□□6□470□□	□ □486	□□7□8□□	□□□□6□□02□
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□ □275	□□ □□3□08□	□□□□6□□□0□□	□ □488	□□7□82□	□□□□6□□0□□
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□ □404	□□ □75□95□	□□□□□6□□□002□	□ □5□□	□□59□37□	□□□□6□0□0□
□ □405	□□ □75□98□	□□□□□6□□270□□	□ □5□2	□□59□28□	□□□□6□□03□
□ □406	□□ □75□90□	□□□□□6□□220□□	□ □5□3	□□95□62□	□□□□6□0□0□
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□ □427	□□ □□0□23□	□□□□6□223□	□ □52□	□□60□53□	□□□□6□473□

Circuit Symbol and No.		Part No.
□ □530	□□ 55□66□	□□□□6□□02□
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□ □547	□□ 75□63□	□□□□6□□04□
□ □548	□□ 74□63□	□□□□6□303□
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□ □622	□□□07□□00□	□□□□6□472□
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□ □625	□□ 99□□02□	□□□□6□472□
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□ □628	□□□□□□□0□□	□□□□6□472□
□ □629	□□ 99□□05□	□□□□6□472□
□ □630	□□□09□□05□	□□□□6□472□
□ □82□	□□□4□□49□ □□□ 5□	□□□□6□2702□
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□ □823	□□□27□45□ □□□ 5□	□□□□6□223□
□ □824	□□□37□54□ □□□ 5□	□□□□□0□27□□
□ □825	□□□27□5□□ □□□ 5□	□□□□6□22□□
□ □826	□□□26□43□ □□□ 5□	□□□□4□□33□□
□ □827	□□□30□43□ □□□ 5□	□□□□4□□33□□
□ □840	□□□72□30□ □□□□	□□□□6□0□0□
□ □84□	□□□72□26□ □□□ 5□	□□□□6□0□0□
□ □842	□□□43□□02□	□□□□6□□2□□
□ □843	□□□43□□0□□	□□□□6□47□□
□ □844	□□□44□99□	□□□□8□□0□□
□ □845	□□□39□□03□	□□□□□0□680□
□ □846	□□□35□□0□□	□□□□□0□680□
□ □847	□□□75□□04□	□□□□6□223□
□ □848	□□□3□□□0□□	□□□□6□472□
□ □850	□□□44□97□	□□□□6□□53□
□ □85□	□□□47□98□	□□□□8□82□□
□ □852	□□□47□□00□	□□□□8□82□□
□ □853	□□ 62□90□	□□□□6□22□□
□ □854	□□ 64□90□	□□□□6□82□□
□ □855	□□ 64□99□	□□□□6□2202□
□ □856	□□ 64□97□	□□□□6□220□□
□ □857	□□ 62□97□	□□□□6□430□□

Circuit Symbol and No.		Part No.
□ □900	□□□□□□38□	□□□□6□0□0□
□ □90□	□□□86□38□	□□□□6□0□0□
□ □904	□□□□□□40□	□□□□6□750□
□ □906	□□□53□□□□□	□□□□6□473□
□ □908	□□□69□□□5□	□□□□6□473□
□ □940	□□ 96□5□□	□□□□6□220□
□ □94□	□□ 96□49□	□□□□6□□02□
□ □942	□□ 96□58□	□□□□6□□02□
□ □943	□□ 98□47□	□□□□6□223□
□ □944	□□ 86□5□□	□□□□6□223□
□ □946	□□ 97□56□	□□□□6□□0□□
□ □947	□□ 98□50□	□□□□6□□0□□
□ □948	□□□50□28□	□□□□6□0□0□
□ □960	□□ 65□48□	□□□□6□220□
□ □96□	□□ 50□53□	□□□□6□□02□
□ □962	□□ 50□48□	□□□□6□□02□
□ □963	□□ 49□54□	□□□□6□223□
□ □964	□□ 5□□45□	□□□□6□223□
□ □966	□□ 47□53□	□□□□6□□0□□
□ □967	□□ 48□48□	□□□□6□□0□□
□ 250□	□□ 25□70□	□□□□6□68□□
□ 2502	□□ 25□67□	□□□□6□68□□
□ 2503	□□ 25□65□	□□□□6□68□□
□ 2504	□□ 25□63□	□□□□6□68□□
□ 2505	□□ 25□6□□	□□□□6□68□□
□ 2506	□□ 30□48□	□□□□6□68□□
□ 2508	□□ 28□60□	□□□□6□223□
□ 25□5	□□ 33□38□ □□□ 5□	□□□□6□0□0□
□ 25□6	□□ 34□42□ □□□ 5□	□□□□6□0□0□
□ 253□	□□ 40□44□	□□□□6□0□0□
□ 2532	□□ 39□36□	□□□□6□0□0□
□ 2535	□□ 43□44□	□□□□6□0□0□
□ 2536	□□ 4□□36□	□□□□6□0□0□
□ 2550	□□□2□□35□ □□□ 5□	□□□□6□□05□
□ 255□	□□ 25□□2□□ □□□ 5□	□□□□6□82□□
□ 2552	□□ 25□□20□ □□□ 5□	□□□□6□330□
□ 2553	□□ 22□□□3□ □□□ 5□	□□□□6□□5□□
□ 2554	□□ 20□□□4□ □□□ 5□	□□□□6□68□□
□ 2555	□□□7□□□7□ □□□ 5□	□□□□6□□52□
□ 2556	□□□7□□□8□ □□□ 5□	□□□□6□680□
□ 2557	□□□5□□□7□ □□□ 5□	□□□□6□□5□□
□ 2558	□□□4□□□3□ □□□ 5□	□□□□6□□5□□
□ 2559	□□ 22□□□3□ □□□ 5□	□□□□6□332□
□ 2560	□□□7□□2□□ □□□ 5□	□□□□6□□0□□
□ 256□	□□□2□□□2□ □□□ 5□	□□□□6□680□
□ 2562	□□ 35□86□ □□□□	□□□□4□□0□0□
□ 2563	□□ 25□59□ □□□ 5□	□□□□6□68□□
□ 2564	□□□2□□□6□ □□□ 5□	□□□□8□□0□0□
□ 2800	□□□47□69□ □□□ 5□	□□□□6□□52□
□ 280□	□□□49□78□ □□□ 5□	□□□□6□□5□□
□ 2802	□□□50□69□ □□□ 5□	□□□□6□68□□
□ 2806	□□□40□47□ □□□ 5□	□□□□□0□39□□
□ 2807	□□□49□53□ □□□ 5□	□□□□6□22□□
□ 2808	□□□42□6□□ □□□ 5□	□□□□6□473□

CAPACITORS

□ □002	□□□52□□47□	□□□□□□□02□50
□ □003	□□□52□□□7□	□□□□□□□02□50
□ □006	□□□5□□□24□	□□□□□□□02□50

Circuit Symbol and No.		Part No.
C 1011	(A,121,89) 2 200 µF/16 V	CCH1659(P35)
C 1013	(A,138,89) 10 000 µF/16 V	CCH1664(P30)
C 1015	(B,124,114)	CKSRYB102K50
C 1017	(A,130,116)	CKSQYB105K16
C 1018	(A,134,112)	CKSRYB102K50
C 1019	(A,155,104) 3 300 µF/16 V	CCH1018(P30)
C 1020	(B,152,144)	CKSRYB392K50
C 1021	(B,152,128)	CKSRYB392K50
C 1022	(B,150,144)	CKSRYB392K50
C 1023	(B,150,128)	CKSRYB392K50
C 1024	(B,149,144)	CKSRYB392K50
C 1025	(B,148,128)	CKSRYB392K50
C 1026	(B,144,144)	CKSRYB392K50
C 1027	(B,146,128)	CKSRYB392K50
C 1030	(A,53,120)	CKSRYF103Z50
C 1050	(B,52,138)	CKSRYB102K50
C 1051	(B,55,122)	CKSRYB102K50
C 1071	(A,136,135)	CKSRYB102K50
C 1200	(A,92,21)	CEVW101M16
C 1201	(A,100,23)	CEVW101M16
C 1202	(A,114,24)	CKSRYB104K25
C 1203	(A,109,23)	CEVW101M16
C 1204	(A,121,29)	CKSRYB104K25
C 1205	(A,118,23)	CEVW101M16
C 1209	(A,34,20)	CKSRYB104K25
C 1210	(A,30,24)	CEVW101M16
C 1211	(A,79,35)	CEVWNP100M10
C 1212	(A,109,45)	CEVWNP100M10
C 1213	(A,106,50)	CEVWNP100M10
C 1214	(B,68,16)	CKSRYB104K25
C 1215	(B,73,21)	CCSRCH5R0C50
C 1216	(A,69,25)	CKSRYB102K50
C 1217	(B,102,18)	CCSRCH101J50
C 1218	(A,68,22)	CEVW100M16
C 1219	(A,39,32)	CEVWNP100M10
C 1220	(A,103,44)	CEVWNP100M10
C 1221	(A,103,34)	CEVW470M16
C 1222	(B,107,24)	CKSRYB104K25
C 1223	(A,125,33)	CEVWNP100M10
C 1225	(B,97,19)	CKSRYB104K25
C 1226	(A,95,31)	CEVW470M16
C 1227	(B,93,18)	CKSRYB104K25
C 1230	(A,117,34)	CEVW470M16
C 1231	(B,117,29)	CKSRYB104K25
C 1232	(A,124,111)	CEVW220M16
C 1233	(A,117,110)	CEVW101M16
C 1234	(A,134,33)	CEVWNP100M10
C 1235	(B,122,103)	CKSRYB104K25
C 1236	(A,126,103)	CEVW101M16
C 1237	(A,127,67)	CEVW101M16
C 1238	(A,132,67)	CKSRYB104K25
C 1239	(A,135,64)	CKSRYB104K25
C 1240	(A,142,61) 100 µF/16 V	CCH1565
C 1241	(A,136,61)	CKSRYB105K10
C 1242	(B,134,62)	CKSRYB153K25
C 1250	(A,105,62)	CEVWNP100M10
C 1251	(A,30,40)	CEVWNP100M10
C 1270	(B,123,127) 10 µF	CCG1171
C 1271	(B,125,127) 10 µF	CCG1171
C 1272	(B,127,125)	CKSRYB473K50

Circuit Symbol and No.		Part No.
C 1273	(B,117,118)	CCSRCH5R0C50
C 1275	(B,121,109)	CKSRYB105K10
C 1276	(A,119,118)	CEVW100M16
C 1277	(B,118,105)	CKSRYB104K16
C 1350	(B,70,17)	CKSRYB104K50
C 1401	(A,130,77)	CEVW220M16
C 1402	(A,116,94)	CKSRYB102K50
C 1403	(A,168,94)	CCSRCH102J50
C 1404	(A,162,98)	CKSQYF334Z25
C 1405	(A,117,100)	CEVW101M16
C 1419	(A,101,35)	CKSRYB104K25
C 1420	(A,110,74)	CEVW100M16
C 1421	(A,94,93)	CEVW100M16
C 1423	(A,100,98) 10 µF	CCG1138
C 1424	(A,105,96) 10 µF	CCG1138
C 1425	(A,99,78)	CEVW100M16
C 1426	(A,100,36)	CKSRYB104K25
C 1427	(B,110,124)	CKSRYB222K50
C 1428	(B,113,119)	CKSRYB222K50
C 1429	(A,107,32)	CEVW100M16
C 1430	(A,105,119)	CEVW330M10
C 1431	(B,90,122)	CKSRYB103K50
C 1432	(A,99,81)	CKSRYB104K25
C 1433	(A,102,72)	CKSRYB104K25
C 1434	(A,106,72)	CKSRYB104K25
C 1435	(A,87,111)	CEVW100M16
C 1436	(A,79,112)	CEVW100M16
C 1437	(A,86,116)	CEVW100M16
C 1438	(A,79,117)	CEVW100M16
C 1439	(B,78,103)	CKSRYB222K50
C 1440	(B,80,109)	CKSRYB222K50
C 1441	(B,80,111)	CKSRYB222K50
C 1442	(B,78,118)	CKSRYB222K50
C 1443	(A,98,115)	CEVW470M16
C 1451	(A,90,65)	CKSQYB105K10
C 1452	(A,92,63)	CKSQYB105K10
C 1453	(B,101,66)	CKSQYB475K10
C 1454	(B,105,62)	CKSQYB475K10
C 1457	(A,88,65)	CKSQYB104K16
C 1458	(A,96,64)	CKSQYB104K16
C 1459	(A,98,61)	CKSQYB475K10
C 1460	(A,109,65)	CKSQYB475K10
C 1461	(B,115,126)	CKSRYB104K25
C 1462	(A,90,129)	CKSRYB105K10
C 1463	(A,95,125)	CKSQYB105K16
C 1464	(A,91,123)	CKSQYB105K16
C 1465	(A,93,123)	CKSQYB105K16
C 1466	(A,86,122)	CKSQYB105K16
C 1467	(A,95,129)	CKSRYB105K10
C 1468	(A,91,126)	CKSRYB105K10
C 1469	(A,91,127)	CKSRYB105K10
C 1470	(A,86,123)	CKSRYB105K10
C 1471	(A,108,129)	CKSQYB225K10
C 1472	(B,102,126)	CKSRYB104K25
C 1473	(A,87,130)	CKSRYB104K25
C 1474	(A,106,127)	CKSQYB225K10
C 1475	(A,82,122)	CEVW100M16
C 1476	(A,111,65)	CKSQYB475K10
C 1477	(A,100,61)	CKSQYB475K10
C 1478	(B,113,77)	CKSQYB475K10

Circuit Symbol and No.	Part No.
C 1479 (B,94,77)	CKSQYB475K10
C 1480 (B,113,75)	CKSQYB475K10
C 1481 (B,94,75)	CKSQYB475K10
C 1482 (B,113,73)	CKSQYB475K10
C 1483 (B,94,72)	CKSQYB475K10
C 1484 (B,113,70)	CKSQYB475K10
C 1485 (B,94,70)	CKSQYB475K10
C 1486 (A,75,74)	CEVW220M16
C 1487 (B,73,76)	CKSRYB105K10
C 1488 (B,80,76)	CKSRYB104K50
C 1489 (A,80,82)	CEVW220M16
C 1490 (B,81,76)	CCSRCH471J50
C 1491 (B,80,72)	CCSRCH471J50
C 1492 (B,74,82)	CKSRYB105K10
C 1493 (B,75,69)	CKSRYB105K10
C 1494 (B,69,76)	CCSRCH471J50
C 1495 (B,70,72)	CCSRCH471J50
C 1501 (A,73,36)	CKSRYB102K50
C 1502 (A,68,33)	CEVW101M16
C 1503 (A,60,33)	CEVW101M16
C 1504 (A,60,28)	CKSRYB104K25
C 1506 (B,49,30)	CKSRYB105K10
C 1507 (B,50,27)	CKSRYB105K10
C 1508 (B,59,27)	CCSRCH101J50
C 1517 (A,96,60)	CKSRYB105K10
C 1520 (A,66,54) 10 µF	CCG1203
C 1521 (A,66,56) 10 µF	CCG1203
C 1522 (A,66,62) 10 µF	CCG1203
C 1523 (A,66,63) 10 µF	CCG1203
C 1525 (B,59,56)	CKSRYB104K50
C 1530 (A,60,59)	CEVW100M16
C 1531 (A,56,58)	CKSRYB103K50
C 1540 (A,62,52)	CKSQYB475K10
C 1541 (A,64,65)	CKSQYB475K10
C 1542 (B,75,59)	CKSRYB103K50
C 1543 (A,71,55)	CEVW100M16
C 1544 (A,71,64)	CEVW100M16
C 1551 (A,42,30)	CEVWNP100M10
C 1552 (A,47,30)	CEVWNP100M10
C 1554 (A,54,30)	CKSRYB562K50
C 1555 (A,53,37)	CKSRYB562K50
C 1556 (A,52,26)	CKSRYB272K50
C 1557 (A,55,39)	CKSRYB272K50
C 1621 (B,100,99)	CKSRYB105K10
C 1622 (B,109,97)	CKSRYB105K10
C 1623 (B,98,102)	CCSRCH221J50
C 1624 (B,110,101)	CCSRCH221J50
C 1625 (B,98,105)	CCSRCH221J50
C 1626 (B,110,105)	CCSRCH221J50
C 1627 (A,107,103)	CKSRYB104K25
C 1628 (A,105,109)	CEVW101M16
C 1809 (B,143,113)	CKSRYB104K25
C 1811 (B,141,118)	CKSRYB102K50
C 1812 (B,145,124)	CKSRYB102K50
C 1821 (A,141,47) (EW 5)	CCSRCH102J50
C 1822 (A,141,50) (EW 5)	CCSRCH102J50
C 1823 (A,137,43) (EW 5)	CEVW101M16
C 1824 (A,117,52) (EW 5)	CEVW101M16
C 1840 (B,143,105)	CKSRYB104K16
C 1841 (B,140,105)	CKSRYB103K50

Circuit Symbol and No.	Part No.
C 1842 (A,119,77)	CEHVW471M16
C 1843 (A,141,110)	CEHVW331M16
C 1850 (B,44,93)	CKSRYB104K25
C 1851 (B,44,95)	CKSRYB103K50
C 1852 (A,45,92)	CEVW101M16
C 1853 (B,62,99)	CKSRYB102K50
C 1854 (B,61,99)	CKSRYB103K50
C 1855 (A,45,100)	CEVW101M16
C 1900 (A,112,38)	CKSQYB475K10
C 1901 (A,109,38)	CKSQYB475K10
C 1903 (A,67,114)	CKSQYB475K10
C 1904 (A,64,113)	CKSQYB475K10
C 1905 (A,52,111)	CKSRYB473K50
C 1906 (A,92,37)	CKSRYB104K25
C 1910 (A,113,34)	CKSRYB104K25
C 1940 (A,96,46)	CKSRYB105K10
C 1941 (A,91,53)	CEVW220M16
C 1942 (A,93,49)	CKSRYB104K50
C 1943 (A,91,42)	CKSRYB105K10
C 1944 (A,33,46)	CEVW220M16
C 1945 (A,93,58)	CKSRYB105K10
C 1946 (A,97,47)	CCSRCH471J50
C 1947 (A,35,51)	CCSRCH471J50
C 1960 (A,60,47)	CEVW220M16
C 1961 (B,62,46)	CKSRYB104K50
C 1962 (B,54,47)	CKSRYB105K10
C 1963 (B,52,52)	CKSRYB105K10
C 1964 (A,67,48)	CEVW220M16
C 1965 (B,51,50)	CKSRYB105K10
C 1966 (B,49,56)	CCSRCH471J50
C 1967 (B,51,47)	CCSRCH471J50
C 2501 (A,35,73)	CKSRYB103K50
C 2502 (A,42,69)	CEVW221M10
C 2503 (A,35,68)	CKSRYB103K50
C 2504 (B,25,44)	CKSRYB103K50
C 2506 (B,25,41) 10 µF	CCG1171
C 2507 (A,33,42)	CEVW470M16
C 2508 (B,30,57)	CKSRYB103K50
C 2509 (A,30,52)	CKSRYB103K50
C 2512 (A,35,51)	CEVW470M16
C 2514 (A,51,69)	CEVW221M10
C 2515 (B,34,40) (EW 5)	CKSRYB102K50
C 2516 (B,32,41) (EW 5)	CKSRYB102K50
C 2550 (A,24,133) (EW 5)	CCSRCH270J50
C 2551 (A,26,132) (EW 5)	CCSRCH220J50
C 2552 (A,26,127) (EW 5)	CCSRCH470J50
C 2555 (B,16,114) (EW 5)	CKSRYB103K50
C 2556 (B,24,111) (EW 5)	CCSRCH270J50
C 2557 (B,25,115) (EW 5)	CCSRCH150J50
C 2558 (A,21,131) (EW 5)	CCSRCH270J50
C 2559 (A,23,127) (EW 5)	CCSRCH330J50
C 2560 (B,24,129) (EW 5)	CKSRYB103K50
C 2561 (A,22,110) (EW 5)	CKSRYB103K50
C 2562 (B,17,115) (EW 5)	CKSRYB222K50
C 2563 (B,16,113) (EW 5)	CKSRYB103K50
C 2564 (B,14,119) (EW 5)	CKSRYB222K50
C 2565 (A,15,119) (EW 5)	CKSRYB222K50
C 2566 (A,14,129) (EW 5)	CKSRYB103K50
C 2567 (B,12,120) (EW 5)	CKSRYB222K50
C 2568 (B,26,112) (EW 5)	CCSRCH220J50

Circuit Symbol and No.		Part No.
C 2800	(B,148,69) (EW5)	CKSRYB222K50
C 2801	(B,148,67) (EW5)	CKSRYB103K50
C 2802	(B,149,79) (EW5)	CCSRCH220J50
C 2804	(A,145,35) (EW5)	CEVW100M16
C 2805	(B,144,45) (EW5)	CKSRYB473K50
C 2806	(B,147,45) (EW5)	CKSRYB103K50
C 2807	(A,145,44) (EW5)	CEVW220M16
C 2808	(B,143,51) (EW5)	CKSRYB103K50
C 2809	(B,143,53) (EW5)	CKSRYB221K50
C 2810	(B,145,61) (EW5)	CKSRYB103K50
C 2811	(B,139,53) (EW5)	CKSRYB473K50

D

Unit Number : CWX3301
Unit Name : DVD Core Unit

MISCELLANEOUS

Circuit Symbol and No.		Part No.
IC 1101	(A,37,85) IC	AN8703FH
IC 1201	(A,76,64) IC	BA5985FM
IC 1202	(A,62,64) IC	AN8471SAT1
IC 1301	(A,38,58) IC	MNZS26EDCUB
IC 1401	(B,33,41) IC	TC74LCX245FTS1
IC 1402	(B,28,25) IC	TC7SH04FUS1
IC 1403	(B,35,19) IC	TC74LCX244FTS1
IC 1405	(A,38,18) IC	TC74LCX244FTS1
IC 1501	(B,87,22) IC	K4S641632H-TC75
IC 1502	(A,94,45) IC	TC74VCX74FT
IC 1503	(A,35,25) IC	MN677531KAUB
IC 1504	(A,35,48) IC	TC74VCX74FT
IC 1505	(B,95,39) IC	TC7PA04FU
IC 1507	(A,60,54) IC	SM8707FV
IC 1602	(B,65,34) IC	NJM2100M
IC 1604	(B,58,44) IC	NJM2100V
IC 1605	(B,59,29) IC	PCM1742KE
IC 1701	(A,114,28) IC	PE5511A
IC 1702	(A,59,38) IC	M5M5V216ATP-70HI
IC 1705	(B,114,27) IC	PD6527A
IC 1706	(A,127,40) IC	TC7SH08FUS1
Q 1101	(B,59,108) Transistor	2SB1260
Q 1102	(B,59,102) Transistor	2SB1260
Q 1103	(A,45,108) Transistor	UN2211
Q 1104	(A,48,109) Transistor	2SB709A
Q 1105	(A,51,109) Transistor	2SD601A
Q 1201	(A,30,19) Transistor	DTC124EU
Q 1501	(A,37,7) Transistor	2SA1037K
D 1101	(B,55,108) Diode	1SS355
D 1102	(B,55,102) Diode	1SS355
D 1301	(A,26,43) Diode	UDZS2R7(B)
D 1302	(B,32,84) Chip LED	CL205IRXTU
L 1301	(A,25,38) Inductor	CTF1409
L 1302	(A,24,41) Inductor	CTF1394
L 1303	(B,30,72) Inductor	CTF1395
L 1305	(A,23,76) Inductor	CTF1409
L 1504	(A,76,48) Inductor	CTF1394
L 1505	(B,80,39) Inductor	CTF1409
L 1506	(A,98,44) Inductor	CTF1473
L 1507	(A,39,51) Inductor	CTF1473
L 1508	(B,98,39) Inductor	CTF1473
L 1509	(A,32,6) Chip Ferrite Bead	CTF1399
L 1510	(B,80,9) Inductor	CTF1409
L 1518	(B,70,22) Inductor	CTF1385
L 1520	(A,65,55) Chip Ferrite Bead	CTF1399
L 1522	(B,82,36) Inductor	CTF1395
L 1605	(B,58,35) Inductor	CTF1379
L 1701	(A,105,15) Inductor	CTF1395
L 1702	(A,68,40) Inductor	CTF1409
L 1703	(B,122,39) Inductor	CTF1473
L 1704	(A,129,27) Inductor	CTF1473
X 1501	(A,55,54) Radiator 27 MHz	CSS1609
X 1701	(A,129,31) Ceramic Resonator 4.97 MHz	CSS1575
VR1502	(A,96,7) Semi-fixed 2.2 kΩ(B)	CCP1444

RESISTORS

Circuit Symbol and No.		Part No.
R 1101	(B,51,106)	RS1/16SS101J
R 1102	(B,52,108)	RS1/16SS3R9J
R 1103	(B,51,110)	RS1/16SS3R9J
R 1104	(B,52,110)	RS1/16SS3R9J
R 1105	(B,53,110)	RS1/16SS3R9J
R 1106	(B,51,108)	RS1/16SS330J
R 1107	(B,48,102)	RS1/16SS3R9J
R 1108	(B,49,103)	RS1/16SS3R9J
R 1109	(B,51,103)	RS1/16SS3R9J
R 1110	(B,53,104)	RS1/16SS3R9J
R 1111	(A,44,111)	RS1/16SS272J
R 1112	(A,46,111)	RS1/16SS472J
R 1113	(A,49,111)	RS1/16SS102J
R 1124	(A,29,86)	RS1/16SS273J
R 1125	(A,29,85)	RS1/16SS273J
R 1126	(B,35,87)	RS1/16SS224J
R 1130	(A,25,84)	RS1/16SS0R0J
R 1131	(A,29,84)	RS1/16SS0R0J
R 1132	(A,25,82)	RS1/16SS0R0J
R 1133	(A,28,83)	RS1/16S2402D
R 1134	(A,28,81)	RS1/16S1002D
R 1135	(A,26,81)	RS1/16S2702D
R 1140	(A,46,84)	RS1/16SS105J
R 1141	(A,45,86)	RS1/16SS105J
R 1142	(B,41,87)	RS1/16SS105J
R 1151	(A,35,94)	RS1/16SS103J
R 1152	(A,34,93)	RS1/16SS103J
R 1201	(A,82,54)	RS1/16SS221J
R 1202	(A,81,54)	RS1/16SS393J
R 1203	(A,80,54)	RS1/16SS303J
R 1205	(A,77,53)	RS1/16SS0R0J
R 1206	(A,77,52)	RS1/16SS102J
R 1209	(A,68,71)	RS1/16SS221J
R 1210	(A,69,61)	RS1/16SS393J
R 1211	(A,69,60)	RS1/16SS393J
R 1212	(A,69,57)	RS1/16SS393J
R 1213	(A,69,56)	RS1/16SS393J
R 1214	(A,71,54)	RS1/16SS221J
R 1215	(A,67,57)	RS1/16SS1R0J
R 1216	(A,67,58)	RS1/16SS1R0J
R 1218	(A,53,69)	RS1/16SS221J
R 1219	(A,52,73)	RS1/16SS221J
R 1220	(A,68,70)	RS1/16SS221J
R 1221	(A,30,16)	RS1/16SS822J
R 1222	(A,31,16)	RS1/16SS822J

Circuit Symbol and No.			Part No.	Circuit Symbol and No.			Part No.
□	□223	□□□32□□6□	□□□□6□□822□	□	□409	□□□38□□□□□	□□□□6□□820□
□	□224	□□□30□□4□	□□□□6□□563□	□	□4□0	□□□38□□3□	□□□□6□□820□
□	□225	□□□3□□□4□	□□□□6□□243□	□	□4□□	□□□36□□3□	□□□4□□0□0□
□	□226	□□□32□□4□	□□□□6□□473□	□	□4□2	□□□35□□2□	□□□□6□□□00□
□	□227	□□□29□□7□	□□□□6□□473□	□	□4□3	□□□34□□2□	□□□□6□□820□
□	□228	□□□67□56□	□□□□6□□□□0□	□	□4□4	□□□32□□3□	□□□4□□820□
□	□229	□□□67□55□	□□□□6□□□□0□	□	□4□5	□□□26□8□	□□□□6□□□03□
□	□230	□□□64□59□	□□□□6□□□□0□	□	□4□8	□□□27□27□	□□□□6□□22□□
□	□232	□□□33□□6□	□□□□6□□822□	□	□42□	□□□33□□9□	□□□□6□□22□□
□	□233	□□□33□□4□	□□□□6□□243□	□	□423	□□□43□□6□	□□□□6□□22□□
□	□234	□□□30□8□□	□□□□6□39□□	□	□424	□□□43□□9□	□□□□6□□22□□
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□	□236	□□□65□70□	□□□□6□□5□3□	□	□426	□□□30□40□	□□□4□□22□□
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□	□322	□□□4□□63□	□□□□6□□0□0□	□	□504	□□□97□□5□	□□□4□□220□
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□	□350	□□□3□□75□	□□□□6□□242□	□	□543	□□□89□48□	□□□□6□□680□
□	□352	□□□29□75□	□□□□6□2702□	□	□544	□□□86□44□	□□□□6□□0□0□
□	□353	□□□23□69□	□□□□6□□□02□	□	□545	□□□84□44□	□□□□6□□0□0□
□	□360	□□□22□63□	□□□□6□□□53□	□	□549	□□□49□37□	□□□□6□□0□0□
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□	□367	□□□3□□52□	□□□□6□□473□	□	□555	□□□89□8□	□□□□6□□0□0□
□	□369	□□□3□□5□□	□□□□6□□473□	□	□556	□□□84□6□	□□□□6□□750□
□	□375	□□□27□46□	□□□□6□□□03□	□	□557	□□□83□44□	□□□□6□□0□0□
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□	□379	□□□32□46□	□□□□6□□□03□	□	□56□	□□□99□6□	□□□□6□□□62□
□	□380	□□□36□50□	□□□□6□□□03□	□	□562	□□□82□44□	□□□□6□□0□0□
□	□383	□□□48□49□	□□□□6□□□03□	□	□563	□□□□00□5□	□□□□6□□4□7□
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□	□392	□□□53□44□	□□□□6□□□03□	□	□565	□□□77□□4□	□□□□6□□0□□
□	□393	□□□50□44□	□□□□6□□□03□	□	□566	□□□78□□5□	□□□□6□□0□□
□	□394	□□□52□44□	□□□□6□□47□□	□	□567	□□□77□42□	□□□4□□0□0□
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□	□396	□□□30□62□	□□□□6□□0□0□	□	□569	□□□7□□20□	□□□□6□□0□□
□	□40□	□□□47□7□	□□□□6□□□0□□	□	□570	□□□7□□□7□	□□□□6□□0□□
□	□403	□□□48□□2□	□□□4□□220□	□	□57□	□□□70□23□	□□□□6□220□
□	□404	□□□46□□2□	□□□4□□220□	□	□572	□□□75□42□	□□□4□□0□0□
□	□405	□□□43□□2□	□□□4□□220□	□	□573	□□□74□□3□	□□□□6□□473□
□	□406	□□□4□□□2□	□□□4□□220□	□	□574	□□□72□42□	□□□4□□0□0□
□	□407	□□□39□□3□	□□□□6□□220□	□	□575	□□□73□3□□	□□□4□□0□0□
□	□408	□□□39□□□□	□□□□6□□□03□	□	□576	□□□73□34□	□□□4□□0□0□

	Circuit Symbol and No.		Part No.
□	□577	□□□73□36□	□□□4□□0□0□
□	□578	□□□70□24□	□□□□6□□472□
□	□579	□□□72□22□	□□□□6□□□0□□
□	□587	□□□78□□6□	□□□□6□□□0□□
□	□595	□□□90□39□	□□□□6□□472□
□	□596	□□□9□□39□	□□□□6□□472□
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□	□60□	□□□70□28□	□□□□6□□82□□
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□	□604	□□□58□36□	□□□□6□□0□0□
□	□605	□□□63□27□	□□□□6□□□02□
□	□606	□□□6□□4□□	□□□□6□□□02□
□	□607	□□□63□28□	□□□□6□□222□
□	□608	□□□6□□40□	□□□□6□□222□
□	□609	□□□64□27□	□□□□6□□472□
□	□6□0	□□□63□4□□	□□□□6□□472□
□	□6□□	□□□64□28□	□□□□6□□472□
□	□6□2	□□□63□40□	□□□□6□□472□
□	□6□3	□□□66□29□	□□□□6□□□03□
□	□6□4	□□□65□40□	□□□□6□□□03□
□	□6□5	□□□66□30□	□□□□6□□472□
□	□6□6	□□□65□39□	□□□□6□□472□
□	□626	□□□53□26□	□□□□6□□0□0□
□	□627	□□□52□26□	□□□□6□□0□0□
□	□628	□□□5□□26□	□□□□6□□0□0□
□	□637	□□□07□□0□	□□□□6□□□04□
□	□638	□□□09□□0□	□□□□6□□□04□
□	□642	□□□□8□□0□	□□□□6□□22□□
□	□643	□□□□9□□0□	□□□□6□□22□□
□	□645	□□□□4□□□□	□□□□6□□0□0□
□	□647	□□□20□□0□	□□□□6□□22□□
□	□648	□□□2□□□□□	□□□□6□□22□□
□	□649	□□□□4□9□	□□□□6□□0□0□
□	□650	□□□□3□□□□	□□□□6□□0□0□
□	□65□	□□□□□□9□	□□□□6□□0□0□
□	□653	□□□50□26□	□□□□6□□473□
□	□656	□□□24□□2□	□□□□6□□□02□
□	□70□	□□□□0□□4□	□□□□6□□473□
□	□704	□□□2□□□4□	□□□□6□□473□
□	□706	□□□25□□7□	□□□□6□□□04□
□	□707	□□□22□□4□	□□□□6□□22□□
□	□708	□□□2□□2□□	□□□□6□□22□□
□	□7□4	□□□28□24□	□□□□6□□22□□
□	□7□5	□□□29□24□	□□□□6□□473□
□	□7□6	□□□22□26□	□□□□6□□22□□
□	□7□7	□□□2□□26□	□□□□6□□□04□
□	□7□8	□□□27□26□	□□□□6□□□04□
□	□720	□□□25□27□	□□□□6□□□04□
□	□72□	□□□25□28□	□□□□6□□□04□
□	□722	□□□2□□32□	□□□□6□□□04□
□	□723	□□□29□27□	□□□□6□□□04□
□	□724	□□□28□3□□	□□□□6□□222□
□	□725	□□□22□42□	□□□□6□□223□
□	□726	□□□54□32□	□□□□6□□□04□
□	□727	□□□06□33□	□□□□6□□□04□
□	□728	□□□07□33□	□□□□6□□□04□
□	□730	□□□25□33□	□□□□6□□22□□
□	□73□	□□□2□□34□	□□□□6□□□04□

	Circuit Symbol and No.		Part No.
□	□732	□□□□4□39□	□□□□6□□0□0□
□	□733	□□□02□43□	□□□□6□□□04□
□	□734	□□□22□33□	□□□□6□□22□□
□	□735	□□□22□36□	□□□□6□□□04□
□	□736	□□□25□35□	□□□□6□□□04□
□	□737	□□□04□40□	□□□□6□□□04□
□	□738	□□□04□43□	□□□□6□□□04□
□	□739	□□□□4□40□	□□□□6□□330□
□	□740	□□□22□43□	□□□□6□□0□0□
□	□74□	□□□□7□40□	□□□□6□□0□0□
□	□742	□□□07□□7□	□□□□6□□473□
□	□746	□□□06□43□	□□□□6□□□04□
□	□748	□□□□6□40□	□□□□6□□□04□
□	□749	□□□24□42□	□□□□6□□□03□
□	□750	□□□24□4□□	□□□□6□□473□
□	□75□	□□□24□40□	□□□□6□□□03□
□	□752	□□□2□□8□	□□□□6□□□04□
□	□753	□□□□2□40□	□□□□6□□□04□
□	□754	□□□□2□4□□	□□□□6□□□04□
□	□756	□□□□5□40□	□□□□6□□□04□
□	□757	□□□□5□42□	□□□□6□□472□
□	□758	□□□□6□42□	□□□□6□□□04□
□	□759	□□□□7□42□	□□□□6□□□04□
□	□760	□□□2□□44□	□□□□6□□002□
□	□76□	□□□22□48□	□□□□6□□□05□
□	□762	□□□□7□4□	□□□□6□□473□
□	□763	□□□06□40□	□□□□6□□□04□
□	□764	□□□□6□4□	□□□□6□□□04□
□	□765	□□□20□□4□	□□□□6□□□04□
□	□767	□□□22□32□	□□□□6□□□04□
□	□768	□□□24□43□	□□□□6□□473□
□	□769	□□□□3□4□	□□□□6□□□04□
□	□770	□□□2□□22□	□□□□6□□473□
□	□77□	□□□2□□23□	□□□□6□□473□
□	□773	□□□24□□6□	□□□□6□□□03□
□	□790	□□□50□40□	□□□□6□□473□
□	□792	□□□50□4□□	□□□□6□□0□0□
□	□794	□□□2□□4□□	□□□□6□□222□
□	□795	□□□□4□□4□	□□□□6□□□04□
□	□796	□□□24□□4□	□□□□6□□473□
□	□797	□□□□5□□4□	□□□□6□□□04□
□	□798	□□□24□42□	□□□□6□□□04□
□	□80□	□□□□2□44□	□□□□6□□□04□
□	□802	□□□25□40□	□□□□6□□□04□
□	□803	□□□25□39□	□□□□6□□□04□
□	□804	□□□27□45□	□□□□6□□□02□
□	□805	□□□28□42□	□□□□6□□□02□

CAPACITORS

□	□□0□	□□□37□□06□	□□□□□470□□6
□	□□02	□□□48□□03□	□□□□□470□6□3
□	□□03	□□□53□□06□	□□□□□□□04□□0
□	□□04	□□□54□□08□	□□□□□□□03□□6
□	□□05	□□□44□□03□	□□□□□□0□□6□3
□	□□06	□□□47□□02□	□□□□□□□04□□0
□	□□07	□□□54□□02□	□□□□□□□03□□6
□	□□08	□□□52□□06□	□□□□□□□04□□0
□	□□09	□□□48□□07□	□□□□□□473□25
□	□□□0	□□□52□□06□	□□□□□□473□25
□	□□□□	□□□62□□02□	□□□□□□□03□□6

Circuit Symbol and No.		Part No.
C 1112	(A,47,100)	CKSRYB105K10
C 1113	(A,47,99)	CKSRYB105K10
C 1114	(A,50,101)	CKSSYB103K16
C 1121	(B,35,88)	CKSSYB221K50
C 1122	(A,28,80)	CKSRYB393K16
C 1124	(B,37,81)	CKSSYB221K50
C 1125	(A,38,77)	CKSSYB104K10
C 1126	(A,39,77)	CKSSYB104K10
C 1127	(A,40,77)	CKSSYB104K10
C 1128	(A,42,77)	CKSRYB472K50
C 1129	(A,44,82)	CKSSYB104K10
C 1132	(A,46,85)	CKSRYB561K50
C 1133	(A,46,87)	CKSRYB561K50
C 1134	(A,46,88)	CKSRYB273K16
C 1135	(A,45,90)	CKSSYB473K10
C 1136	(A,45,90)	CKSSYB104K10
C 1137	(A,45,91)	CKSSYB104K10
C 1138	(B,37,87)	CKSSYB104K10
C 1139	(B,39,88)	CKSSYB104K10
C 1201	(A,82,58)	CKSSYB104K10
C 1204	(B,23,55)	CEVW101M16
C 1205	(A,83,67)	CKSRYB104K16
C 1206	(A,83,69)	CKSRYB103K50
C 1207	(A,83,70)	CKSRYB103K50
C 1208	(A,70,61)	CCSSCH5R0C50
C 1209	(A,70,57)	CCSSCH470J50
C 1213	(A,55,68)	CKSRYB104K25
C 1214	(A,56,68)	CKSRYB104K25
C 1215	(A,57,59)	CKSSYB104K10
C 1216	(A,55,61)	CSZSC470M16
C 1217	(A,67,59)	CKSRYB104K25
C 1218	(A,67,51)	CSZSC470M16
C 1221	(A,32,21)	CKSRYB104K25
C 1301	(A,53,49)	CKSSYB104K10
C 1302	(B,50,57)	CKSSYB104K10
C 1303	(A,53,58)	CKSSYB224K6R3
C 1304	(A,53,63)	CKSSYB104K10
C 1305	(A,53,65)	CKSSYB224K6R3
C 1306	(A,49,74)	CKSSYB471K50
C 1307	(A,44,73)	CKSSYB104K10
C 1308	(A,42,73)	CKSRYB224K10
C 1309	(A,39,74)	CKSSYB104K10
C 1310	(A,36,74)	CKSSYB104K10
C 1311	(B,42,67)	CKSSYB103K16
C 1312	(B,38,65)	CKSSYB103K16
C 1313	(A,33,73)	CKSSYB104K10
C 1314	(B,31,68)	CKSRYB224K10
C 1315	(A,30,74)	CKSRYB102K50
C 1316	(A,27,75)	CKSRYB393K16
C 1317	(A,26,72)	CKSSYB104K10
C 1318	(A,23,70)	CKSSYB103K16
C 1319	(A,22,70)	CKSSYB104K10
C 1320	(A,23,68)	CKSSYB103K16
C 1329	(A,24,63)	CKSSYB104K10
C 1330	(A,23,66)	CKSRYB183K25
C 1331	(A,22,64)	CCSSCH470J50
C 1332	(A,23,62)	CKSRYB224K10
C 1333	(A,23,60)	CKSRYB224K10
C 1334	(B,33,57)	CKSRYB102K50
C 1335	(B,30,57)	CKSSYB152K50
C 1336	(A,24,59)	CKSSYB104K10
C 1337	(B,35,56)	CKSRYB102K50
C 1338	(B,31,56)	CKSRYB102K50
C 1339	(A,22,56)	CKSRYB102K50
C 1340	(A,24,56)	CKSSYB104K10
C 1341	(A,22,55)	CCSSCH101J50
C 1342	(A,22,53)	CKSRYB391K50
C 1343	(A,22,51)	CKSRYB471K50
C 1344	(A,22,50)	CKSRYB331K50
C 1346	(A,24,50)	CKSRYB224K10
C 1347	(A,33,44)	CKSSYB104K10
C 1348	(A,37,44)	CKSSYB104K10
C 1349	(A,39,44)	CKSSYB104K10
C 1350	(A,42,44)	CKSSYB104K10
C 1351	(A,46,44)	CKSSYB104K10
C 1352	(A,48,44)	CKSSYB104K10
C 1401	(B,46,7)	CCSSCH181J25
C 1402	(B,38,39)	CKSSYB104K10
C 1403	(B,28,23)	CKSSYB104K10
C 1404	(B,32,23)	CKSSYB104K10
C 1406	(A,43,21)	CKSSYB104K10
C 1501	(B,79,12)	CKSRYB224K10
C 1502	(B,80,14)	CKSRYB224K10
C 1503	(B,80,19)	CKSRYB224K10
C 1504	(B,80,23)	CKSRYB224K10
C 1505	(B,86,35)	CKSRYB224K10
C 1507	(B,95,17)	CKSRYB224K10
C 1508	(B,95,22)	CKSRYB224K10
C 1510	(B,79,33)	CSZSC101M10
C 1513	(B,100,13)	CKSRYB224K10
C 1514	(B,101,20)	CKSRYB224K10
C 1515	(B,100,15)	CKSRYB224K10
C 1516	(B,100,19)	CKSRYB224K10
C 1517	(B,100,21)	CKSRYB224K10
C 1518	(B,100,24)	CKSRYB224K10
C 1519	(B,100,27)	CKSRYB224K10
C 1520	(B,100,29)	CKSRYB224K10
C 1521	(B,100,32)	CKSRYB224K10
C 1522	(B,100,34)	CKSRYB224K10
C 1523	(B,100,37)	CKSRYB224K10
C 1524	(A,98,47)	CKSRYB224K10
C 1525	(A,100,10)	CKSSYB104K10
C 1526	(A,100,41)	CKSRYB224K10
C 1527	(A,95,41)	CKSRYB224K10
C 1528	(A,93,8)	CKSSYB104K10
C 1529	(A,92,41)	CKSRYB224K10
C 1530	(A,36,51)	CKSRYB224K10
C 1531	(B,92,35)	CKSSYB471K50
C 1532	(A,92,8)	CKSSYB104K10
C 1533	(A,90,41)	CKSSYB104K10
C 1534	(B,97,39)	CKSRYB224K10
C 1535	(B,86,37)	CKSSYB104K10
C 1538	(B,84,10)	CKSSYB104K10
C 1539	(B,80,10)	CKSRYB105K10
C 1540	(A,100,7)	CKSRYB105K10
C 1542	(B,80,37)	CKSSYB104K10
C 1543	(B,84,9)	CSZS4R7M16
C 1544	(A,31,8)	CKSSYB104K10
C 1547	(A,77,7)	CSZSR330M10
C 1548	(B,76,12)	CKSSYB104K10

Circuit Symbol and No.		Part No.
C 1549	(A,70,38)	CKSSYB104K10
C 1550	(B,74,12)	CKSSYB104K10
C 1551	(B,72,12)	CKSSYB104K10
C 1552	(B,74,14)	CKSSYB104K10
C 1554	(B,74,15)	CKSSYB104K10
C 1555	(B,73,18)	CKSSYB104K10
C 1556	(A,69,22)	CKSSYB104K10
C 1557	(A,69,26)	CKSSYB104K10
C 1558	(A,69,29)	CKSSYB104K10
C 1559	(A,69,33)	CKSSYB104K10
C 1560	(A,69,37)	CKSSYB104K10
C 1562	(A,64,56)	CKSSYB104K10
C 1563	(A,60,50)	CKSSYB104K10
C 1564	(A,60,58)	CKSSYB104K10
C 1566	(A,57,56)	CCSSCH7R0D50
C 1567	(A,57,52)	CCSSCH7R0D50
C 1605	(B,70,29)	CKSSYB471K50
C 1606	(B,70,30)	CKSSYB471K50
C 1609	(B,60,37)	CKSRYB104K16
C 1610	(B,58,33)	CKSRYB224K10
C 1611	(B,57,38)	CSZSR100M16
C 1612	(B,70,36)	CKSQYB225K10
C 1615	(B,67,27)	CCSRCH471J50
C 1616	(B,66,41)	CCSRCH471J50
C 1617	(B,64,29)	CCSRCH471J50
C 1618	(B,63,39)	CCSRCH471J50
C 1619	(B,59,41)	CKSRYB104K16
C 1620	(B,59,24)	CKSRYB104K16
C 1641	(B,64,25)	CKSRYB104K16
C 1650	(A,104,9)	CKSYB475K16
C 1651	(A,102,10)	CKSYB475K16
C 1676	(B,67,24)	CSZSR100M10
C 1701	(A,118,15)	CKSRYB224K10
C 1702	(A,109,15)	CKSRYB224K10
C 1703	(B,122,29)	CKSRYB224K10
C 1706	(B,104,24)	CKSRYB224K10
C 1707	(A,127,24)	CKSRYB224K10
C 1708	(B,121,24)	CKSSYB471K50
C 1710	(B,104,29)	CKSRYB224K10
C 1711	(B,128,30)	CKSSYB103K16
C 1712	(B,129,28)	CKSSYB103K16
C 1713	(A,66,38)	CKSRYB224K10
C 1716	(B,105,35)	CKSRYB224K10
C 1717	(A,127,36)	CKSSYB104K10
C 1718	(B,122,37)	CKSRYB224K10
C 1719	(B,114,15)	CKSSYB104K10
C 1720	(A,128,27)	CKSRYB224K10
C 1721	(A,126,42)	CKSSYB104K10
C 1722	(A,110,40)	CKSRYB224K10
C 1723	(A,119,40)	CKSRYB224K10
C 1724	(A,119,43)	CKSSYB103K16
C 1727	(B,125,31)	CKSSYB224K6R3

E

Unit Number : CWX3154
Unit Name : Compound Unit(A)

Q 1299	Photo-taransistor	CPT231SCTD
S 1201	Spring Switch(12 cm)	CSN1069
S 1202	Spring Switch(3 cm)	CSN1069

Circuit Symbol and No.		Part No.
S 1203	Spring Switch(DISC SENS)	CSN1069
S 1204	Spring Switch(DISC SENS)	CSN1070
S 1205	Spring Switch(3 cm)	CSN1070
R 1298		RS1/16S0R0J
R 1299		RS1/16S0R0J

F

Unit Number : CWX3394
Unit Name : Compound Unit(B)

S 1206	Switch(CLAMP)	CSN1067

Navi Mother Unit
Consists of
Navi Mother PCB
HDD Relay PCB

GH

Unit Number : CWN1581(UC)
Unit Number : CWN1631(EW5)
Unit Name : Navi Mother Unit

MISCELLANEOUS

IC 5001	(A,34,30) IC	NJM2125F
IC 5002	(B,54,27) IC	NJM2904V
IC 5003	(A,54,27) IC	TC4052BFT
IC 5004	(B,61,17) IC	NJM2904V
IC 5103	(B,162,34) IC	TC7SET08FUS1
IC 5104	(B,157,48) IC	BH7236AF
IC 5401	(A,136,61) IC	NJM3403AV
IC 5421	(B,137,61) IC	TC4W53FU
IC 5422	(B,143,71) IC	NJM2125F
IC 5423	(B,132,67) IC	NJM3403AV
IC 5424	(A,144,71) IC	TC4W53FU
IC 5451	(A,132,38) IC	TC4W53FU
IC 5452	(B,132,40) IC	NJM3403AV
IC 5481	(B,22,93) IC	TDA7052BT
IC 5531	(B,41,24) IC	BA3121F
IC 5535	(B,57,102) IC	TC74VHC541FTS1
IC 5537	(B,44,99) IC	TC7W04FU
IC 5539	(B,29,99) IC	TC7SET04FUS1
IC 5571	(A,85,55) IC	HA12241FP
IC 5601	(B,71,114) IC	TC7SET08FUS1
IC 5671	(B,20,105) IC	UPD4721GSS1
IC 5901	(B,102,30) IC	NJM2904M
IC 6201	(B,62,56) IC	TPS5102IDBT
IC 6251	(B,45,56) IC	TPS5103IDB
IC 6322	(A,90,88) IC	BD3931HFP
IC 6402	(A,153,61) IC	S-312C50AUA-C3E
IC 6601	(B,104,50) IC	TC74VHC32FTS1
IC 6602	(A,86,45) IC	TC74VHC32FTS1
IC 6603	(A,87,39) IC	TC74VHCT125AFTS1
IC 6604	(B,104,56) IC	TC7WH14FU
IC 6605	(A,125,76) IC	TC7S04FU
IC 6606	(A,122,71) IC	BD5335FVE
IC 6607	(A,107,54) IC(UC)	PE5539A

Circuit Symbol and No.			Part No.
IC	6607	IC(EW 5)	PE5540A
IC	6609	(B,112,53) IC	TC7WH08FU
IC	6610	(B,53,94) IC	TC74VHC125FTS1
IC	6611	(B,162,15) IC	LM56BIMM
IC	6801	(B,22,7) IC	TC7MZ245FK
IC	6802	(B,42,8) IC	TC7MBL3244AFK
Q	5001	(B,51,16) Transistor	UMD3N
Q	5002	(B,55,13) Transistor	FMG12
Q	5003	(B,55,18) Transistor	DTC114EU
Q	5004	(B,55,16) Transistor	DTC114EU
Q	5201	(B,109,85) Transistor	UMZ1N
Q	5401	(A,136,77) Transistor	UMD3N
Q	5421	(B,140,57) Transistor	UMD3N
Q	5451	(A,127,38) Transistor	UMD3N
Q	5452	(A,142,44) Transistor	UMD3N
Q	5453	(A,142,47) Transistor	UMD3N
Q	5454	(A,142,49) Transistor	UMD3N
Q	5455	(A,136,44) Transistor	DTC323TU
Q	5456	(A,136,47) Transistor	FMG12
Q	5481	(B,22,89) Transistor	UMD3N
Q	5482	(B,18,89) Transistor	DTC323TU
Q	5483	(B,23,100) Transistor	DTC114EU
Q	5531	(B,42,104) Transistor	2SC4081
Q	5532	(B,48,103) Transistor	2SC4081
Q	5533	(B,33,102) Transistor	2SC4081
Q	5611	(B,10,116) Transistor	2SC4081
Q	5651	(B,70,106) Transistor	2SA1576
Q	5652	(B,75,110) Transistor	2SC4081
Q	5671	(B,32,106) Transistor	IMD3A
Q	5672	(B,32,111) Transistor	2SD1767
Q	5901	(B,107,35) Transistor	DTC114WK
Q	5902	(B,93,33) Transistor	DTC114EU
Q	5921	(B,113,33) Transistor	2SA1576
Q	5941	(B,96,85) Transistor	2SC4081
Q	5942	(B,102,87) Transistor	2SC4081
Q	5961	(B,102,95) Transistor	2SC4081
Q	6201	(B,57,46) Transistor	DTC114EU
Q	6202	(A,62,45) FET	SP8K2
Q	6203	(A,62,65) FET	SP8K2
Q	6204	(B,53,55) Transistor	DTC114EU
Q	6251	(B,47,64) Transistor	DTC114EU
Q	6252	(A,40,49) FET	SP8K2
Q	6301	(B,75,101) Transistor	2SA1576
Q	6302	(B,72,104) Transistor	DTC114EU
Q	6311	(B,92,100) Transistor	2SA1576
Q	6312	(B,96,100) Transistor	DTC114EU
Q	6321	(B,80,52) Transistor	2SC4081
Q	6322	(B,81,70) Transistor	2SA1834F5
Q	6331	(B,90,88) Transistor	2SB1184F5
Q	6332	(B,85,79) Transistor	IMX1
Q	6341	(B,41,75) Transistor	2SA1834F5
Q	6342	(B,32,86) Transistor	2SC4081
Q	6351	(B,90,130) Transistor	DTA114EU
Q	6352	(B,95,129) Transistor	DTC114EU
Q	6353	(B,91,119) Transistor	2SA1587
Q	6354	(B,83,111) Transistor	IMX1
Q	6355	(B,81,115) Transistor	DTC114EU
Q	6356	(B,98,115) Transistor	2SD1760F5
Q	6370	(B,54,87) Transistor	2SB1260
Q	6371	(B,62,87) Transistor	2SC4081

Circuit Symbol and No.			Part No.
Q	6501	(B,93,11) Transistor	UMD3N
Q	6601	(A,99,75) Transistor	2SA1576
Q	6602	(B,119,58) Transistor	2SC4081
D	5001	(A,30,29) Diode	EDZ4R3(B)
D	5002	(A,33,34) Diode	1SS355
D	5003	(B,51,13) Diode	DAP202U
D	5403	(A,134,77) Diode	EDZ4R3(B)
D	5404	(A,131,80) Diode	1SS355
D	5531	(B,37,111) Diode	EDZ6R8(B)
D	5532	(B,37,114) Diode	EDZ6R8(B)
D	5533	(B,38,111) Diode	EDZ6R8(B)
D	5534	(B,38,114) Diode	EDZ6R8(B)
D	5536	(B,40,111) Diode	EDZ6R8(B)
D	5537	(B,48,111) Diode	EDZ6R8(B)
D	5538	(B,41,114) Diode	EDZ6R8(B)
D	5539	(B,49,114) Diode	EDZ6R8(B)
D	5541	(B,50,111) Diode	EDZ6R8(B)
D	5542	(B,43,114) Diode	EDZ6R8(B)
D	5543	(B,51,114) Diode	EDZ6R8(B)
D	5544	(B,43,111) Diode	EDZ6R8(B)
D	5545	(B,51,111) Diode	EDZ6R8(B)
D	5548	(B,52,114) Diode	EDZ6R8(B)
D	5550	(B,53,111) Diode	EDZ6R8(B)
D	5552	(B,54,114) Diode	EDZ6R8(B)
D	5554	(B,55,111) Diode	EDZ6R8(B)
D	5555	(B,45,114) Diode	AVR-M1608C080MTAAB
D	5556	(B,45,111) Diode	AVR-M1608C080MTAAB
D	5557	(B,46,114) Diode	AVR-M1608C080MTAAB
D	5558	(B,47,111) Diode	AVR-M1608C080MTAAB
D	5571	(B,17,114) Diode	AVR-M1608C080MTAAB
D	5572	(B,19,114) Diode	AVR-M1608C080MTAAB
D	5573	(B,20,114) Diode	AVR-M1608C080MTAAB
D	5574	(B,15,114) Diode	AVR-M1608C080MTAAB
D	5575	(A,26,112) Diode	UDZS18(B)
D	5576	(A,24,112) Diode	UDZS18(B)
D	5601	(B,83,124) Diode	EDZ5R6(B)
D	5602	(B,83,127) Diode	EDZ5R6(B)
D	5611	(A,9,123) Diode	EDZ6R8(B)
D	5612	(B,10,119) Diode	EDZ6R8(B)
D	5621	(B,28,95) Diode	EDZ10(B)
D	5622	(B,28,92) Diode	EDZ10(B)
D	5651	(B,66,103) Diode	1SS355
D	5652	(B,67,107) Diode	1SS355
D	5653	(B,64,113) Diode	HZU12(B2)
D	5654	(B,62,117) Diode	HZU12(B2)
D	5655	(B,68,115) Diode	HZU12(B2)
D	5656	(B,68,112) Diode	HZU12(B2)
D	5657	(A,64,114) Diode	UMZ6R8N
D	5658	(A,67,116) Diode	UMZ6R8N
D	5671	(A,32,120) Diode	UDZS6R8(B)
D	5672	(A,29,116) Diode	UDZS20(B)
D	5673	(A,29,120) Diode	UDZS20(B)
D	5674	(A,34,116) Diode	UDZS20(B)
D	5675	(A,34,120) Diode	UDZS20(B)
D	5676	(A,31,116) Diode	UDZS20(B)
D	5677	(A,31,120) Diode	UDZS20(B)
D	5678	(A,36,116) Diode	UDZS20(B)
D	5679	(A,36,120) Diode	UDZS20(B)
D	5680	(B,29,106) Diode	HZU8R2(B1)
D	5801	(B,142,24) Diode	DAN202U

Circuit Symbol and No.			Part No.
D	5901	(B,99,26) Diode	1SS355
D	5921	(B,111,31) Diode	1SS355
D	5941	(B,96,87) Diode	HZU7R5(B3)
D	5942	(B,96,89) Diode	RB500V-40
D	5943	(B,99,89) Diode	EDZ20(B)
D	5944	(B,96,91) Diode	RB500V-40
D	5961	(B,96,95) Diode	UDZS8R2(B)
D	6201	(B,70,60) Diode	RB400D
D	6202	(B,69,51) Diode	RB400D
D	6203	(A,67,45) Diode	RB060L-40
D	6204	(A,66,65) Diode	RB060L-40
D	6251	(B,42,47) Diode	RB400D
D	6252	(A,35,49) Diode	RB060L-40
D	6253	(A,47,51) Diode	1SR154-400
D	6331	(B,85,87) Diode	EDZ7R5(B)
D	6351	(B,82,108) Diode	RB500V-40
D	6352	(B,82,107) Diode	RB500V-40
D	6353	(B,81,119) Diode	HZU8R2(B1)
D	6354	(B,101,106) Diode	HZU13(B1)
D	6401	(B,161,87) Diode	EDZ5R6(B)
D	6501	(A,94,21) Diode	EDZ12(B)
D	6502	(A,100,21) Diode	EDZ5R6(B)
D	6504	(A,96,21) Diode	EDZ5R6(B)
D	6506	(A,97,21) Diode	EDZ5R6(B)
L	5102	(B,163,38) Inductor	CTF1410
L	5103	(A,155,50) Inductor	CTF1410
L	5104	(B,160,41) Inductor	LCTAW680J3225
L	5202	(A,139,109) Inductor	CTF1306
L	5203	(A,138,109) Inductor	CTF1306
L	5204	(A,138,91) Inductor	CTF1378
L	5205	(A,136,109) Inductor	CTF1306
L	5206	(A,135,109) Inductor	CTF1306
L	5207	(A,135,91) Inductor	CTF1378
L	5208	(A,134,91) Inductor	CTF1378
L	5209	(A,133,109) Inductor	CTF1306
L	5210	(A,133,91) Inductor	CTF1378
L	5211	(A,132,109) Inductor	CTF1306
L	5212	(A,131,92) Inductor	CTF1306
L	5214	(A,128,109) Inductor	CTF1306
L	5215	(A,124,90) Inductor	CTF1306
L	5217	(B,122,101) Inductor	CTF1467
L	5218	(A,124,109) Inductor	CTF1306
L	5220	(A,123,112) Inductor	CTF1306
L	5222	(A,123,109) Inductor	CTF1306
L	5223	(A,122,112) Inductor	CTF1306
L	5226	(B,121,101) Inductor	CTF1334
L	5228	(A,119,92) Inductor	CTF1334
L	5229	(A,119,109) Inductor	CTF1334
L	5231	(A,118,112) Inductor	CTF1334
L	5232	(A,119,90) Inductor	CTF1306
L	5233	(A,117,109) Inductor	CTF1334
L	5236	(A,116,109) Inductor	CTF1334
L	5238	(A,115,112) Inductor	CTF1334
L	5239	(A,117,92) Inductor	CTF1334
L	5240	(A,114,109) Inductor	CTF1334
L	5241	(B,117,101) Inductor	CTF1334
L	5242	(A,114,112) Inductor	CTF1334
L	5243	(A,116,90) Inductor	CTF1306
L	5244	(A,126,92) Inductor	CTF1306
L	5245	(A,130,109) Inductor	CTF1306

Circuit Symbol and No.			Part No.
L	5246	(A,128,112) Inductor	CTF1384
L	5247	(B,124,101) Inductor	CTF1389
L	5248	(A,126,112) Inductor	CTF1306
L	5249	(A,126,109) Inductor	CTF1306
L	5250	(A,125,112) Inductor	CTF1306
L	5251	(A,116,112) Inductor	CTF1387
L	5252	(A,115,92) Inductor	CTF1334
L	5253	(B,116,101) Inductor	CTF1379
L	5254	(A,114,90) Inductor	CTF1306
L	5256	(B,114,101) Inductor	CTF1334
L	5257	(A,113,90) Inductor	CTF1334
L	5258	(A,112,92) Inductor	CTF1334
L	5259	(A,110,109) Inductor	CTF1393
L	5260	(A,109,92) Inductor	CTF1488
L	5261	(A,108,109) Inductor	CTF1393
L	5262	(A,105,92) Inductor	CTF1306
L	5263	(A,121,109) Inductor	CTF1334
L	5264	(A,121,112) Inductor	CTF1334
L	5265	(A,120,109) Inductor	CTF1334
L	5266	(A,119,112) Inductor	CTF1334
L	5267	(A,130,112) Inductor	CTF1334
L	5268	(A,127,109) Inductor	CTF1334
L	5269	(A,129,112) Inductor	CTF1334
L	5270	(A,130,90) Inductor	CTF1306
L	5401	(A,140,77) Inductor	CTF1410
L	5402	(B,122,97) Inductor	CTF1334
L	5421	(B,139,60) Inductor	CTF1410
L	5451	(A,74,76) Inductor	CTF1306
L	5452	(A,134,35) Inductor	CTF1410
L	5531	(B,33,29) Inductor	LCYC2R2K2125
L	5532	(B,33,31) Inductor	LCYC2R2K2125
L	5534	(B,51,103) Inductor	CTF1410
L	5536	(B,40,101) Inductor	CTF1410
L	5538	(B,33,97) Inductor	CTF1410
L	5539	(A,40,112) Inductor	CTF1410
L	5540	(A,43,109) Inductor	CTF1410
L	5542	(A,44,112) Inductor	CTF1410
L	5543	(A,45,112) Inductor	CTF1410
L	5549	(A,56,112) Inductor	CTF1410
L	5550	(A,57,109) Inductor	CTF1410
L	5551	(A,59,109) Inductor	CTF1410
L	5552	(A,61,109) Inductor	CTF1410
L	5553	(A,63,109) Inductor	CTF1410
L	5554	(A,57,115) Inductor	CTF1393
L	5571	(A,85,50) Inductor	LCYC2R2K1608
L	5572	(A,16,114) Inductor	CTF1334
L	5573	(A,18,114) Inductor	CTF1334
L	5574	(A,19,114) Inductor	CTF1334
L	5575	(A,15,114) Inductor	CTF1334
L	5601	(B,71,117) Inductor	CTF1379
L	5621	(B,30,95) Inductor	CTF1558
L	5622	(B,30,92) Inductor	CTF1558
L	5671	(B,22,111) Inductor	CTF1410
L	5672	(B,13,105) Inductor	CTF1334
L	5673	(B,13,104) Inductor	CTF1334
L	5674	(B,13,103) Inductor	CTF1334
L	5675	(B,13,101) Inductor	CTF1334
L	5676	(A,32,112) Inductor	CTF1463
L	5802	(B,142,21) Inductor	CTF1334
L	5803	(B,148,20) Inductor	CTF1334

Circuit Symbol and No.	Part No.
L 5804 (A,148,13) Inductor	CTF1 334
L 5805 (A,130,13) Inductor	CTF1 334
L 5806 (A,151,17) Inductor	CTF1 306
L 5807 (A,153,17) Inductor	CTF1 306
L 5808 (B, 40,8) Inductor	CTF1 306
L 5809 (B, 35, 7) Inductor	CTF1 306
L 5810 (A, 41,14) Inductor	CTF1 306
L 5853 (A,118,124) Inductor	CTF1 306
L 5854 (A,118,118) Inductor	CTF1 306
L 5901 (B,108, 31) Inductor	CTF1 334
L 5902 (B,100, 33) Inductor	CTF1 334
L 5903 (B,92, 30) Inductor	CTF1 334
L 5904 (B,97, 35) Inductor	CTF1 334
L 6102 (A, 46,88) Inductor	CTF1 386
L 6103 (A, 44,88) Inductor	CTF1 306
L 6104 (A, 43,88) Inductor	CTF1 306
L 6106 (B, 41,93) Inductor	CTF1 380
L 6107 (A, 42,88) Inductor	CTF1 467
L 6108 (B, 41,88) Inductor	CTF1 334
L 6109 (A, 40,88) Inductor	CTF1 306
L 6110 (B, 39,88) Inductor	CTF1 306
L 6111 (B,38,88) Inductor	CTF1 306
L 6112 (A, 39,88) Inductor	CTF1 306
L 6113 (B,37,88) Inductor	CTF1 306
L 6114 (A, 38,88) Inductor	CTF1 306
L 6115 (A, 41,82) Inductor	CTF1 393
L 6116 (A,39,82) Inductor	CTF1 393
L 6117 (A, 35,82) Inductor	CTF1 661
L 6118 (A,35,87) Inductor	CTF1 488
L 6119 (A, 30,85) Inductor	CTF1 393
L 6120 (A, 49,86) Inductor	CTF1 393
L 6121 (B, 54,91) Inductor	CTF1 410
L 6122 (B,60,95) Inductor	CTF1 386
L 6123 (B,60,97) Inductor	CTF1 386
L 6124 (B,60,94) Inductor	CTF1 386
L 6201 (A,69, 55) Inductor	CTH1 255
L 6202 (A,64, 75) Inductor	CTH1 257
L 6203 (A, 57, 55) Inductor	CTH1 253
L 6251 (A, 48, 43) Inductor	CTH1 255
L 6252 (A, 44,60) Inductor	CTH1 257
L 6401 (A,156,93) Inductor(EW 5)	CTF1 334
L 6402 (A,156,91) Inductor(EW 5)	CTF1 334
L 6403 (A,156,90) Inductor(EW 5)	CTF1 334
L 6404 (A,156,87) Inductor(EW 5)	CTF1 334
L 6405 (B,166,85) Inductor	CTF1 334
L 6406 (B,165,85) Inductor	CTF1 334
L 6407 (B,167,102) Inductor	CTF1 394
L 6408 (B,160,102) Inductor	CTF1 394
L 6409 (B,163,102) Inductor	CTF1 394
L 6410 (B,155,68) Inductor	CTF1 334
L 6412 (A,155,128) Inductor	CTF1 334
L 6413 (A,150,61) Inductor	CTF1 334
L 6501 (B,95,17) Inductor	CTF1 379
L 6502 (B,102,11) Inductor	CTF1 379
L 6601 (A,91, 50) Inductor	CTF1 410
L 6602 (A,84, 36) Inductor	CTF1 410
L 6603 (B,106, 46) Inductor	CTF1 410
L 6604 (B,106, 54) Inductor	CTF1 410
L 6605 (A,122, 74) Inductor	CTF1 410
L 6606 (A,92, 79) Inductor	CTF1 393

Circuit Symbol and No.	Part No.
L 6607 (B,111, 56) Inductor	CTF1 410
L 6608 (A,121, 57) Inductor	CTF1 410
L 6609 (A,116,69) Inductor	CTF1 410
L 6610 (A,102,68) Inductor	CTF1 410
L 6611 (A, 93, 49) Inductor	CTF1 410
L 6612 (A,108, 36) Inductor	CTF1 410
L 6613 (B,159,18) Inductor	CTF1 410
L 6801 (B,12,8) Inductor	CTH1 261
L 6802 (A, 41,8) Inductor	CTF1 410
L 6803 (A,19,6) Inductor	CTF1 410
X 6601 (A, 91,65) Resonator 18.874 MHz	CSS1 622
S 5901 (A,60,8) Spring Switch(HDD SENSE)	CSN1 055
S 5902 (A, 52,19) Spring Switch(DOOR SENSE)	CSN1 055
⚠FU 5651 (A, 72,110) Fuse 4 A	CEK1 260
⚠FU 5671 (A, 31,112) Fuse 1 A	CEK1 280
⚠FU 6201 (A, 79, 57) Fuse 2 A	CEK1 284
⚠FU 6202 (A, 73, 71) Fuse 3 A	CEK1 286
⚠FU 6203 (A, 52, 71) Fuse 4 A	CEK1 260
⚠FU 6251 (A, 35, 78) Fuse 2 A	CEK1 284
⚠FU 6252 (A, 49, 71) Fuse 2.5 A	CEK1 258
⚠FU 6331 (B,84,83) Fuse 1 A	CEK1 254
⚠FU 6351 (A, 98,120) Fuse 1 A	CEK1 280
GY 6402 (A,147,131) Gyro sensor	CSX11 07
GY 6401 (A,167,69) Gyro sensor	CSX11 05
EF 5101 (A,149, 28) EMI Filter	CCG1 082
EF 5102 (A,151, 28) EMI Filter	CCG1 082
EF 5103 (A,153,28) EMI Filter	CCG1 082
EF 5104 (A,156, 28) EMI Filter	CCG1 067
EF 5531 (A, 51,107) EMI Filter	CCG1 067
EF 5532 (A, 54,107) EMI Filter	CCG1 067
EF 5611 (A,6,122) EMI Filter	CCG11 61
EF 5651 (A,68,114) EMI Filter	CCG1 067
EF 5800 (B,107,114) EMI Filter	CCG11 72
EF 5801 (B,107,118) EMI Filter	CCG11 72

RESISTORS

R 5001	(A,61,31)	RS1/16S472J
R 5002	(A, 45, 29)	RS1/16S472J
R 5003	(A, 33, 32)	RS1/16S102J
R 5004	(A,61,32)	RS1/16S473J
R 5005	(A, 45, 27)	RS1/16S473J
R 5006	(A, 53,33)	RS1/16S104J
R 5007	(A, 52, 33)	RS1/16S104J
R 5008	(A, 51, 33)	RS1/16S104J
R 5009	(A, 49,33)	RS1/16S104J
R 5010	(A, 45, 20)	RS1/16S104J
R 5011	(A, 46, 20)	RS1/16S104J
R 5012	(A, 47, 20)	RS1/16S104J
R 5013	(A, 49, 20)	RS1/16S104J
R 5014	(B, 50,19)	RS1/16S473J
R 5015	(B, 49,19)	RS1/16S473J
R 5016	(B, 51, 24)	RS1/16S0R0J
R 5017	(B, 54, 23)	RS1/16S0R0J
R 5101	(B,155, 56)	RS1/16S222J
R 5102	(A,148,53)	RS1/16S0R0J
R 5104	(B,153, 59)	RS1/16S181J
R 5105	(B,152, 59)	RS1/16S181J
R 5106	(B,150, 59)	RS1/16S181J
R 5107	(B,162, 56)	RS1/16S222J

Circuit Symbol and No.			Part No.
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□	5204	□□□25□□0□□	□□□□6□0□0□
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□	54□4	□□□3□□58□	□□□□6□682□
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Circuit Symbol and No.			Part No.
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	5550	2902	603
	555	3002	6223
	5552	4009	6390
	5553	4409	6390
	5554	4509	6390
	5555	5609	602
	5556	6509	62700
	5557	6909	62700
	5558	6809	653
	5559	6409	653
	556	42	647
	5568	602	647
	557	9355	6472
	5572	953	602
	5573	955	60
	5575	8352	602
	5576	8460	000
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	5578	8465	0620
	560	874	622
	5602	757	662
	5603	754	6473
	5604	7	62
	562	92	6473
	562	2792	60
	565	6902	6473
	5652	6904	6473
	5653	7206	6473
	5654	7507	6473
	5655	620	600
	5656	60	600
	5657	640	600
	5658	6809	6473
	5659	70	600
	5660	74	6473
	566	726	6473
	567	326	668
	5672	006	668
	5673	005	668
	5674	003	668
	5675	002	668
	5676	3608	647
	5677	3607	647
	5802	46	602
	5803	4427	600
	5804	427	668
	5805	6602	000
	5808	526	000
	5895	457	600
	5896	487 5	600
	590	073	604
	5902	0235	6473
	5903	0729	6563
	5904	0236	653
	5905	9730	604
	5906	9530	653
	5907	9628	653
	5908	0035	602
	5909	9228	602
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	59	0226	6822
	592	0225	6202
	593	9736	6203
	594	0036	6333
	595	5823	627
	596	669	627
	592	733	602
	5922	533	603
	5923	033	603
	594	9987	6473
	5942	029	603
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	5944	999	603
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	5962	9996	604
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	603	4889	600
	604	6395	65
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	60	4987	668
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	6203	6448	6270
	6204	647	660
	6205	665	600
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	622	5649	604
	623	5662	652
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	625	596	604
	626	5648	68203
	627	5457	600
	628	6345	050
	629	636	050
	6220	7252	6224
	622	7255	6224
	6222	6449	6473
	625	3852	600
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	6255	4054	60
	6256	426	652
	6257	4265	604
	6258	4462	603

	Circuit Symbol and No.		Part No.
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□	6603	□□□08□57□	□□□□6□□04□
□	6604	□□□□3□69□	□□□4□□04□
□	6605	□□99□68□	□□□□6□□04□
□	6606	□□□07□70□	□□□□6□47□□
□	6607	□□□08□70□	□□□□6□47□□
□	6608	□□□06□70□	□□□□6□47□□
□	6609	□□92□53□	□□□□6□□04□
□	66□0	□□94□53□	□□□□6□□04□
□	66□□	□□□03□68□	□□□□6□□04□
□	66□2	□□88□60□	□□□□6□□04□

	Circuit Symbol and No.		Part No.
□	66□3	□□90□40□	□□□□6□□04□
□	66□4	□□90□37□	□□□□6□□04□
□	66□5	□□93□58□	□□□□6□302□
□	66□6	□□99□46□	□□□□6□□04□
□	66□7	□□□00□6□□	□□□□6□□04□
□	66□9	□□□66□□6□	□□□□6□4702□
□	6620	□□□66□□4□	□□□□6□□302□
□	6624	□□□2□□6□□	□□□4□68□□
□	6626	□□□2□□6□□	□□□4□473□
□	6627	□□□26□57□ □□□5□	□□□4□223□
□	6628	□□□26□57□ □□□5□	□□□4□68□□
□	6629	□□□23□53□	□□□4□47□□
□	6630	□□□04□36□	□□□□6□0□0□
□	6632	□□96□47□	□□□□6□□04□
□	6633	□□□23□49□	□□□4□68□□
□	6634	□□93□46□	□□□□6□220□
□	6637	□□93□44□	□□□□6□220□
□	6638	□□□□7□60□	□□□□6□473□
□	6639	□□□□7□57□	□□□□6□473□
□	6640	□□□2□□55□	□□□□6□□04□
□	664□	□□□2□□54□	□□□□6□□04□
□	6642	□□□02□78□	□□□□6□472□
□	6643	□□99□78□	□□□□6□472□
□	6644	□□97□75□	□□□□6□473□
□	6645	□□□□0□42□	□□□□6□□04□
□	6646	□□□□6□36□	□□□□6□□04□
□	6647	□□□03□40□	□□□□6□220□
□	6648	□□□0□□40□	□□□□6□220□
□	6649	□□□22□44□	□□□4□0□0□
□	6650	□□□□3□36□	□□□□6□□04□
□	6653	□□□□0□40□	□□□□6□□02□
□	6654	□□□24□4□□	□□□□6□473□
□	6655	□□□□7□36□	□□□□6□□04□
□	6656	□□□□2□30□	□□□4□□04□
□	6658	□□□□0□36□	□□□4□□04□
□	6660	□□□06□36□	□□□□6□□04□
□	6662	□□□2□□49□	□□□□6□□04□
□	6664	□□□2□□46□	□□□□6□□04□
□	6666	□□□2□□44□	□□□□6□□04□
□	6668	□□□2□□4□□	□□□□6□□04□
□	6670	□□□00□58□	□□□□6□□04□
□	667□	□□□□9□70□	□□□□6□□02□
□	6672	□□□06□40□	□□□□6□47□□
□	6673	□□□04□40□	□□□□6□47□□
□	6674	□□97□42□	□□□□6□□04□
□	6676	□□□00□40□	□□□□6□220□
□	6677	□□99□40□	□□□□6□220□
□	6678	□□88□49□	□□□□6□□04□
□	6680	□□□0□□36□	□□□□6□□04□
□	668□	□□□5□□75□	□□□□0□0□0□
□	6683	□□□□0□70□ □□□5□	□□□□6□□68□□
□	6684	□□□05□72□ □□□5□	□□□□6□□68□□
□	6685	□□□34□54□	□□□□6□□03□
□	6686	□□47□53□	□□□□0□0□0□
□	6687	□□□□2□40□	□□□□6□□02□
□	6688	□□□24□6□□	□□□□6□□02□
□	6689	□□□3□□59□	□□□□6□□03□
□	6690	□□□0□□7□□	□□□□6□□02□
□	669□	□□95□49□	□□□□6□□0□□
□	6803	□□□20□9□	□□□□6□0□0□

Circuit Symbol and No.			Part No.
R	6804	(A,48,9)	RS1/16S0R0J
R	6810	(B,42,12)	RS1/16S473J
R	6812	(B,37 6)	RS1/16S0R0J
R	6813	(B 30,10)	RS1/16S103J

CAPACITORS

Circuit Symbol and No.			Part No.
C	5001	(A 31,29)	CKSRYB103K50
C	5002	(A,27,31)	CEVW100M16
C	5003	(A 60,25) 10 μF	CCG1203
C	5004	(A 60,29) 10 μF	CCG1203
C	5005	(A,48,27) 10 μF	CCG1203
C	5006	(A,48,25) 10 μF	CCG1203
C	5008	(A 60,27) 10 μF	CCG1203
C	5009	(A,48,30) 10 μF	CCG1203
C	5011	(A,55,30)	CKSRYB104K50
C	5012	(B,54,30)	CKSRYB104K50
C	5101	(A,149,55)	CKSRYB334K10
C	5102	(B,156,56)	CCSRCH5R0C50
C	5104	(A,151,45)	CEVW470M16
C	5105	(A,146,53)	CKSRYB103K50
C	5106	(B,163,36)	CKSRYB104K50
C	5107	(B,150,56)	CKSRYB104K50
C	5108	(B,152,56)	CKSRYB104K50
C	5109	(B,153,56)	CKSRYB104K50
C	5110	(B,161,56)	CCSRCH470J50
C	5112	(A,158,55)	CEVW470M16
C	5113	(A,164,52)	CKSRYB103K50
C	5116	(B,158,42)	CCSRCH220J50
C	5117	(A,164,44)	CEVW100M16
C	5119	(A,155,49)	CKSRYB103K50
C	5120	(A,158,45)	CEVW470M16
C	5121	(A,144 35)	CEVW221M4
C	5122	(A,151,35)	CEVW221M4
C	5123	(A,158,35)	CEVW221M4
C	5124	(A,166 35)	CEVW221M4
C	5201	(A,107 92)	CKSRYB104K50
C	5202	(A,107,109)	CKSRYB104K50
C	5203	(A,110 92)	CKSRYB104K50
C	5204	(A,112,109)	CKSRYB104K50
C	5205	(B,106 83)	CKSRYB104K50
C	5402	(A,140 69)	CKSRYB105K10
C	5403	(A,138 69)	CKSRYB105K10
C	5404	(A,140 62)	CCSRCH100D50
C	5405	(A,143 62)	CKSRYB103K50
C	5406	(A,142,55)	CKSRYB104K50
C	5407	(A,142,57)	CCSRCH151J50
C	5408	(A,139 60)	CCSRCH151J50
C	5409	(A,139,55)	CKSRYB105K10
C	5410	(A,135,55)	CKSRYB105K10
C	5411	(A,132,58)	CCSRCH101J50
C	5412	(B,16 89)	CKSRYB474K10
C	5413	(A,132,77)	CKSRYB103K50
C	5414	(A,129,75)	CEVW100M16
C	5415	(A,132 69)	CKSRYB103K50
C	5416	(A,130 62)	CKSRYB104K50
C	5417	(A,136 67)	CCSRCH471J50
C	5418	(A,146,70)	CKSRYB104K50
C	5419	(A,131 65)	CCSRCH471J50
C	5421	(A,130 65)	CKSRYF104Z25

Circuit Symbol and No.			Part No.
C	5422	(A,126 65)	CEVW220M16
C	5423	(B,134,78)	CKSRYB105K10
C	5424	(B,146,70)	CKSRYB105K10
C	5425	(B,136,75)	CCSRCH391J50
C	5426	(B,134,73)	CCSRCH102J50
C	5427	(B,132,73)	CCSRCH560J50
C	5428	(B,139 62)	CKSRYB104K50
C	5429	(B,134,58)	CKSRYB105K10
C	5430	(B,137 66)	CCSRCH470J50
C	5431	(B,138 69)	CKSRYB105K10
C	5441	(B,129,73)	CKSRYB104K50
C	5442	(B,129 68)	CCSRCH101J50
C	5443	(B,128 63)	CCSRCH471J50
C	5444	(B,129 66)	CCSRCH680J50
C	5445	(B,128 61)	CKSRYB105K10
C	5451	(A,72,76)	CKSRYB104K50
C	5452	(A,131 51)	CEVW220M6R3
C	5453	(B,147,73)	CKSRYB104K50
C	5454	(B,130,48)	CKSRYB473K50
C	5455	(B,130,46)	CKSRYB473K50
C	5456	(B,126,42)	CKSRYB104K50
C	5457	(B,125 39)	CKSRYB222K50
C	5458	(B,126,39)	CCSRCH391J50
C	5459	(B,135,42)	CKSRYB104K50
C	5460	(B,138,39)	CKSRYB682K50
C	5461	(B,136,39)	CCSRCH331J50
C	5462	(A,134 38)	CKSRYB104K50
C	5463	(A,130,42)	CKSRYB105K10
C	5464	(A,130,47)	CKSRYB474K10
C	5465	(B,136,48)	CCSRCH471J50
C	5466	(B,134,46)	CCSRCH680J50
C	5467	(B,138,46)	CKSRYB105K10
C	5481	(B,14,92)	CKSRYB332K50
C	5482	(A,18 89)	CEVW101M16
C	5483	(A,23 88)	CKSRYB104K50
C	5484	(B,17,92)	CKSRYB105K10
C	5485	(B,17 94)	CKSRYB105K10
C	5531	(A,13,106)	CKSRYB103K50
C	5532	(A,40,22)	CEVW220M16
C	5533	(A,36,24)	CKSRYB104K50
C	5534	(A,40,30)	CEVW220M16
C	5535	(A,17,101)	CKSRYB103K50
C	5536	(A,18 97)	CEVW101M10
C	5537	(B,53,101)	CKSRYB104K50
C	5538	(B,36,24)	CKSRYB105K10
C	5539	(B,40,39)	CKSRYB104K50
C	5540	(B,47,25)	CKSRYB105K10
C	5541	(B,34,100)	CKSRYB104K50
C	5542	(A,41,118)	CCSRCH121J50
C	5543	(A,41,109)	CCSRCH121J50
C	5544	(B,42,28)	CKSRYB105K10
C	5545	(A,42,118)	CCSRCH121J50
C	5546	(A,45,118)	CCSRCH121J50
C	5547	(A,44,118)	CCSRCH121J50
C	5548	(A,46,118)	CCSRCH121J50
C	5549	(B,47,29)	CCSRCH471J50
C	5550	(A,48,118)	CCSRCH121J50
C	5551	(B,35,27)	CCSRCH471J50
C	5552	(A 60,109)	CCSRCH121J50
C	5553	(B,30,34)	CCSRCH471J50

Circuit Symbol and No.				Part No.
C	5554	(A,49,118)		CCSRCH121J50
C	5555	(B,32,34)		CCSRCH471J50
C	5558	(A,52,118)		CKSRYB104K50
C	5571	(A,35,52)		CKSRYB472K50
C	5572	(A,13,112)		CKSRYB104K50
C	5581	(A,10,126)		CKSRYB104K50
C	5601	(B,75,115)		CCSRCH150J50
C	5602	(B,71,115)		CKSRYB104K50
C	5612	(B,12,117)		CKSRYB103K50
C	5621	(B,27,95)		CKSRYB222K50
C	5651	(B,72,108)		CKSRYB103K50
C	5656	(A,70,116)		CKSRYB473K50
C	5671	(B,12,108)		CKSQYB475K6R3
C	5672	(B,11,108)		CKSSYB103K16
C	5673	(B,22,110)		CKSRYB105K10
C	5674	(B,26,107)		CKSRYB105K10
C	5675	(B,26,105)		CKSRYB105K10
C	5676	(B,16,110)		CKSRYB105K10
C	5677	(B,14,108)		CKSRYB105K10
C	5685	(A,39,118)		CKSQYF104Z50
C	5686	(B,27,106)		CKSRYB104K50
C	5832	(A,41,13) (EW 5)		CCSRCH101J50
C	5851	(B,104,111)		CKSRYB104K50
C	5852	(B,92,117)		CKSRYB104K50
C	5901	(B,102,33)		CKSRYB104K50
C	5902	(B,96,30)		CKSRYB102K50
C	5903	(B,93,28)		CKSRYB104K50
C	5904	(B,93,36)		CKSRYB103K50
C	5905	(B,93,30)		CKSRYB823K16
C	5906	(A,64,9)		CKSRYB103K50
C	5907	(A,58,20)		CKSRYB103K50
C	6001	(A,32,19)		CKSRYB103K50
C	6002	(A,162,14)		CKSRYB103K50
C	6101	(A,49,89)	1 0 µF	CCG1192
C	6102	(A,43,83)		CKSRYF104Z25
C	6103	(A,38,83)		CKSRYF104Z25
C	6104	(A,36,83)		CKSRYF104Z25
C	6105	(A,27,86)		CKSRYF104Z25
C	6106	(B,31,88)		CKSRYF104Z25
C	6107	(A,30,87)		CKSRYF104Z25
C	6108	(A,26,83)	1 0 µF	CCG1223
C	6109	(B,51,91)		CKSRYB104K50
C	6201	(B,66,47)		CKSRYB682K50
C	6202	(B,59,64)		CKSRYB682K50
C	6203	(B,59,49)		CCSRCH101J50
C	6204	(B,59,48)		CKSRYB224K16
C	6205	(B,56,60)		CCSRCH221J50
C	6206	(B,56,61)		CKSRYB104K50
C	6207	(B,56,51)		CKSRYB223K50
C	6208	(B,56,52)	47 pF	CCG1231
C	6209	(B,56,55)		CKSRYB105K10
C	6210	(B,56,58)		CKSRYB223K50
C	6211	(B,53,59)	4.7 µF	CCG1222
C	6212	(B,67,53)		CKSRYF474Z16
C	6213	(B,67,59)		CKSRYF474Z16
C	6214	(B,70,57)		CKSQYB475K10
C	6215	(B,73,52)		CKSRYB104K50
C	6216	(B,73,55)		CKSRYF104Z25
C	6217	(A,72,45)	330 µF/6.3 V	CCH1366
C	6218	(A,71,65)	330 µF/6.3 V	CCH1366
C	6219	(A,56,42)	1 0 µF	CCG1223
C	6220	(A,56,68)	1 0 µF	CCG1223
C	6221	(A,56,45)	1 0 µF	CCG1223
C	6222	(A,56,65)	1 0 µF	CCG1223
C	6251	(B,40,57)		CKSRYB103K50
C	6252	(B,42,64)		CCSRCH101J50
C	6253	(B,42,62)		CKSRYB104K50
C	6254	(B,40,59)		CKSRYB103K50
C	6255	(B,44,61)	47 pF	CCG1231
C	6256	(B,47,61)		CKSRYB105K10
C	6257	(B,50,48)		CKSQYB475K10
C	6258	(B,42,50)		CKSRYF474Z16
C	6259	(B,46,47)		CKSRYB104K50
C	6260	(B,48,48)	4.7 µF	CCG1222
C	6261	(A,38,41)	220 µF/10 V	CCH1409
C	6262	(A,36,61)	1 0 µF	CCG1223
C	6263	(A,36,58)	1 0 µF	CCG1223
C	6264	(A,36,55)	1 0 µF	CCG1223
C	6311	(B,94,100)		CKSRYB104K50
C	6321	(B,79,57)		CKSRYB104K50
C	6322	(B,69,76)	1 0 µF	CCG1203
C	6323	(A,95,81)		CKSQYB105K16
C	6324	(A,84,87)		CKSYB105K25
C	6325	(B,86,75)	1 0 µF	CCG1220
C	6329	(B,86,68)		CKSRYB103K50
C	6331	(B,85,90)		CKSRYB104K50
C	6332	(A,92,98)		CEVW101M16
C	6333	(B,88,79)		CKSRYB103K50
C	6341	(A,35,75)		CKSRYB103K50
C	6342	(A,40,74)		CEVW101M16
C	6343	(B,29,86)		CKSRYB105K10
C	6351	(B,85,117)		CKSRYB104K50
C	6352	(A,111,117)		CKSRYB103K50
C	6353	(A,107,117)		CEVW470M16
C	6354	(A,100,120)		CKSRYB103K50
C	6355	(A,100,114)		CEVW101M16
C	6356	(B,81,112)		CKSRYB472K50
C	6370	(A,57,93)		CKSRYB103K50
C	6371	(A,57,88)		CEVW101M16
C	6372	(B,62,90)		CKSRYB105K10
C	6401	(B,158,72)	1 0 µF	CCG1203
C	6402	(B,168,102)		CKSRYB102K50
C	6403	(B,162,102)		CKSRYB102K50
C	6404	(B,165,102)		CKSRYB102K50
C	6405	(B,155,70)		CKSRYB103K50
C	6406	(B,155,69)		CKSRYB105K10
C	6408	(A,155,130)		CKSRYB104K50
C	6409	(A,153,72)		CEVW101M16
C	6410	(A,154,66)		CKSRYB104K50
C	6411	(A,154,65)		CKSRYB105K10
C	6412	(A,154,64)		CKSRYB105K10
C	6501	(B,96,17)		CKSRYB104K50
C	6502	(B,93,17)		CCSRCH101J50
C	6504	(B,101,17)		CCSRCH101J50
C	6505	(B,99,17)		CKSRYB103K50
C	6507	(B,99,11)		CKSRYB103K50
C	6508	(B,97,11)		CKSRYB103K50
C	6601	(B,104,46)		CKSRYB104K50
C	6602	(A,88,49)		CKSRYB104K50
C	6603	(A,86,36)		CKSRYB104K50

Circuit Symbol and No.		Part No.
C 6604	(B,104,54)	CKSRYB104K50
C 6605	(A,122□69)	CKSRYB153K50
C 6606	(A,125,74)	CKSRYB104K50
C 6607	(A,116□67)	CKSRYB104K50
C 6608	(A,113,40)	CKSRYB104K50
C 6609	(A,104□68)	CKSRYB104K50
C 6610	(A,119□67)	CKSRYB105K10
C 6611	(A□94□62)	CCSRCH7R0D50
C 6612	(A□94□64)	CCSRCH6R0D50
C 6613	(A,122,73)	CKSRYB104K50
C 6614	(A,121,55)	CKSRYB104K50
C 6615	(A□94,49)	CKSRYB104K50
C 6616	(A□95,78)	CKSRYB104K50
C 6617	(A□94,75)	CSZSR100M16
C 6618	(A□95,79)	CKSRYB104K50
C 6619	(A,116,41)	CKSRYB104K50
C 6620	(A,108,41)	CKSRYB104K50
C 6622	(A,119□69)	CKSRYB104K50
C 6623	(B,113,56)	CKSRYB104K50
C 6624	(B,162,18)	CKSRYB104K50
C 6625	(B,168,16)	CKSRYB104K50
C 6626	(B,115,52)	CCSRCH101J50
C 6801	(A□65,19)	CKSRYB104K50
C 6802	(B□6,9) 330 µF/10 V	CCH1623
C 6805	(A□61,9)	CKSRYB104K50
C 6806	(A,22,7)	CKSRYB105K10
C 6807	(A□38□8)	CKSRYB105K10

I

Unit Number : CWN1586
Unit Name : Panel Unit

D 6901	LED	SDDB16001A(CA)
D 6905	LED	SDDB16001A(CA)
D 6910	LED	SDDB16001A(CA)
S 6902	Push Switch(DISC)	CSG1155
R 6901		RS1/16S241J
R 6903		RS1/16S202J

J

Unit Number : CWN1585(UC)
Unit Number : CWN1635(EW5)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 3021	IC	SBX3050-01
D 3001	LED	SDDB16001A(CA)
D 3002	LED	SDDB16001A(CA)
D 3003	LED(UC)	SDDB16001A(CA)
D 3003	LED(EW5)	CL-196HR-CD(AB)
D 3004	LED	SDDB16001A(CA)
D 3006	LED	SDDB16001A(CA)
D 3007	LED	SDDB16001A(CA)
D 3009	LED	SDDB16001A(CA)
D 3010	LED	SDDB16001A(CA)
D 3012	LED	SDDB16001A(CA)
D 3013	LED	SDDB16001A(CA)
D 3014	LED	SDDB16001A(CA)
D 3015	LED	SDDB16001A(CA)

Circuit Symbol and No.		Part No.
S 3001	Push Switch	CSG1155
S 3002	Push Switch	CSG1155
S 3003	Push Switch	CSG1155
S 3004	Push Switch	CSG1155
S 3005	Push Switch	CSG1155
S 3006	Push Switch	CSG1155
S 3007	Push Switch	CSG1155
S 3008	Push Switch	CSG1155
S 3009	Push Switch	CSG1155
S 3010	Push Switch	CSG1155
S 3011	Push Switch	CSG1155
S 3012	Push Switch	CSG1155
S 3021	Push Switch	CSG1155

RESISTORS

R 3001		RS1/16S822J
R 3002		RS1/16S302J
R 3003		RS1/16S103J
R 3004		RS1/16S303J
R 3006		RS1/16S103J
R 3007		RS1/16S303J
R 3009		RS1/16S512J
R 3010		RS1/16S103J
R 3011		RS1/16S303J
R 3016	LED(UC)	SDDB16001A
R 3016	LED(EW5)	CL-196HR-CD
R 3021		RS1/16S470J

CAPACITORS

C 3021		CKSRYB104K25

K

Unit Number : CWN1584(UC)
Unit Number : CWN1634(EW5)
Unit Name : Monitor Unit

MISCELLANEOUS

IC 1	(A,40,59) IC	TC90A96AFG-P
IC 41	(A,29□85) IC	TC7SH08FUS1
IC 101	(A,34,40) IC	NJM2100V
IC 102	(A,17,43) IC	TC7SET04FUS1
IC 103	(A,12□61) IC	TC7S66FU
IC 104	(A,9,46) IC	NJM082BV
IC 121	(A□66□34) IC	TC74VHC04FTS1
IC 122	(A,70□30) IC	TC7SET04FUS1
IC 181	(B□94,71) IC	BD6171KV
IC 182	(A,33□69) IC	S-1132B25-U5
IC 183	(A,33,57) IC	S-1132B15-U5
IC 251	(A,109,45) IC	S-30835CNNB-B8U
IC 252	(A,121□38) IC	BR93L56FJ-W
IC 301	(A,100□32) IC	PE5538A
IC 305	(A,112,25) IC	TC7SH08FUS1
IC 332	(A□64,77) IC	TC7SH08FUS1
IC 841	(B,142,74) IC	OZ964ISN
IC 845	(B,136□67) IC	TC7SH08FUS1
IC 873	(A,130□64) IC	TA78L05F
Q 1	(A,44,79) Transistor	2SC4617

Circuit Symbol and No.		Part No.
Q 101	(A,3,37) Transistor	UMX2N
Q 102	(A,10,37) Transistor	UMT2N
Q 181	(A,102,67) FET	RSQ035P03
Q 182	(A,109,67) FET	RSQ035P03
Q 251	(A,34,51) Transistor	2SC4617
Q 301	(B,103,19) Transistor	2SC4617
Q 351	(A,73,87) Transistor	2SC4081
Q 352	(A,67,87) Transistor	2SA1576
Q 602	(A,141,79) Transistor	2SC4617
Q 603	(A,140,81) Transistor	2SC4617
Q 605	(A,146,81) Transistor	UMX2N
Q 681	(A,120,26) Transistor	XN4381
Q 682	(A,126,30) Transistor	XN4381
Q 683	(A,123,26) Transistor	FMG12
Q 842	(A,149,79) Transistor	2SA1774
Q 843	(A,138,66) FET	TS8M1
Q 844	(A,145,66) FET	TS8M1
Q 871	(A,126,73) Transistor	2SC4617
Q 872	(A,127,75) Transistor	2SC4617
D 181	(A,96,64) Diode	RB160M-30
D 182	(A,111,62) Diode	RSX201L-30
D 183	(B,91,82) Diode	RB548W
D 184	(B,91,80) Diode	RB548W
D 185	(A,37,80) Diode	RB548W
D 186	(A,39,80) Diode	RB548W
D 187	(A,91,80) Diode	RB548W
D 241	(A,39,56) Diode	RB500V-40
D 242	(A,33,62) Diode	RB500V-40
D 601	(A,138,77) Diode	UDZS8R2(B)
D 681	(A,119,30) Diode	UDZS5R6(B)
D 682	(A,119,23) Diode	UDZS5R6(B)
D 683	(A,124,23) Diode	1SS355
D 840	(A,135,35) Diode	HZU6R2(B3)
D 841	(A,136,64) Diode	HZU6R2(B3)
D 842	(A,150,75) Diode	HZU6R2(B3)
D 843	(A,136,38) Diode	MA147
D 844	(A,136,29) Diode	MA147
D 851	(A,150,76) Diode	1SS355
D 871	(A,130,70) Diode	UDZS6R2(B)
D 872	(B,134,71) Diode	RB751V-40
L 1	(A,56,50) Inductor	CTF1306
L 2	(A,58,57) Inductor	CTF1306
L 3	(A,56,55) Inductor	CTF1306
L 4	(A,58,59) Inductor	CTF1306
L 5	(A,56,62) Inductor	CTF1306
L 6	(A,58,64) Inductor	CTF1306
L 7	(A,57,66) Inductor	CTF1306
L 8	(A,57,69) Inductor	CTF1306
L 9	(A,55,72) Inductor	CTF1306
L 10	(A,55,73) Inductor	CTF1306
L 11	(A,55,75) Inductor	CTF1306
L 12	(A,53,75) Inductor	CTF1306
L 13	(A,48,80) Inductor	CTF1306
L 18	(A,46,83) Inductor	CTF1306
L 25	(A,41,76) Inductor	CTF1306
L 30	(A,39,76) Inductor	CTF1306
L 34	(A,33,76) Inductor	CTF1306
L 36	(A,30,75) Inductor	CTF1306
L 38	(A,28,73) Inductor	CTF1306
L 39	(A,26,73) Inductor	CTF1306

Circuit Symbol and No.		Part No.
L 40	(A,24,72) Inductor	CTF1306
L 41	(A,23,72) Inductor	CTF1306
L 42	(A,22,72) Inductor	CTF1306
L 43	(A,20,67) Inductor	CTF1306
L 44	(A,24,67) Inductor	CTF1306
L 45	(A,22,66) Inductor	CTF1306
L 46	(A,24,65) Inductor	CTF1306
L 47	(A,20,64) Inductor	CTF1306
L 48	(A,19,63) Inductor	CTF1306
L 49	(A,23,63) Inductor	CTF1306
L 50	(A,23,61) Inductor	CTF1306
L 51	(A,23,60) Inductor	CTF1306
L 52	(A,23,59) Inductor	CTF1306
L 53	(A,24,58) Inductor	CTF1306
L 54	(A,24,56) Inductor	CTF1306
L 55	(A,24,55) Inductor	CTF1306
L 56	(A,24,54) Inductor	CTF1306
L 57	(A,23,52) Inductor	CTF1306
L 58	(A,22,51) Inductor	CTF1306
L 59	(A,24,49) Inductor	CTF1306
L 60	(A,24,48) Inductor	CTF1306
L 61	(A,27,45) Ferrite Bead	CTF1528
L 62	(A,27,44) Ferrite Bead	CTF1528
L 63	(A,29,43) Ferrite Bead	CTF1528
L 64	(A,29,44) Ferrite Bead	CTF1528
L 65	(A,30,43) Ferrite Bead	CTF1528
L 66	(A,31,44) Ferrite Bead	CTF1528
L 67	(A,32,44) Ferrite Bead	CTF1528
L 68	(A,33,42) Inductor	CTF1306
L 69	(A,35,42) Inductor	CTF1306
L 70	(A,36,43) Ferrite Bead	CTF1528
L 71	(A,36,41) Ferrite Bead	CTF1528
L 72	(A,37,43) Ferrite Bead	CTF1528
L 73	(A,38,41) Ferrite Bead	CTF1528
L 74	(A,38,42) Ferrite Bead	CTF1528
L 75	(A,39,41) Ferrite Bead	CTF1528
L 76	(A,40,42) Inductor	CTF1306
L 77	(A,41,43) Ferrite Bead	CTF1528
L 78	(A,41,41) Ferrite Bead	CTF1528
L 79	(A,42,42) Ferrite Bead	CTF1528
L 80	(A,43,41) Ferrite Bead	CTF1528
L 81	(A,43,42) Ferrite Bead	CTF1528
L 82	(A,44,40) Ferrite Bead	CTF1528
L 83	(A,45,41) Inductor	CTF1306
L 84	(A,47,39) Inductor	CTF1306
L 85	(A,47,42) Inductor	CTF1306
L 86	(A,48,42) Ferrite Bead	CTF1528
L 87	(A,49,41) Ferrite Bead	CTF1528
L 88	(A,50,41) Ferrite Bead	CTF1528
L 89	(A,51,41) Ferrite Bead	CTF1528
L 90	(A,52,42) Ferrite Bead	CTF1528
L 91	(A,53,42) Ferrite Bead	CTF1528
L 92	(A,53,44) Inductor	CTF1306
L 93	(A,54,46) Inductor	CTF1306
L 94	(A,48,84) Inductor	CTF1635
L 95	(A,25,82) Inductor	CTF1635
L 96	(A,54,84) Inductor	CTF1635
L 97	(A,21,48) Inductor	CTF1635
L 98	(A,58,53) Inductor	CTF1635
L 99	(A,59,74) Inductor	CTF1635

Circuit Symbol and No.		Part No.
L 100	(A,116,49) Choke Coil 18 μH	CTH1250
L 101	(A,11,56) Inductor	LCKAW101J2520
L 102	(A,14,55) Inductor	LCKAW101J2520
L 105	(A,14,46) Inductor	CTF1306
L 121	(A,64,41) Inductor	CTF1635
L 122	(A,65,29) Inductor	CTF1306
L 123	(A,69,35) Inductor	CTF1306
L 151	(A,26,39) Inductor	DTL1096
L 152	(A,31,38) Inductor	CTF1635
L 153	(A,23,38) Inductor	CTF1635
L 161	(B,16,35) Inductor	DTL1096
L 171	(A,26,76) Inductor	LCKAW101J2520
L 181	(B,86,77) Inductor	DTL1096
L 185	(A,123,54) Choke Coil 10 μH	CTH1249
L 186	(A,88,65) Inductor	CTF1635
L 195	(A,91,53) Inductor	CTF1635
L 203	(A,95,60) Choke Coil 68 μH	CTH1318
L 207	(B,100,83) Inductor	CTF1635
L 214	(A,115,62) Choke Coil 18 μH	CTH1250
L 251	(A,90,50) Inductor	CTF1635
L 321	(A,61,75) Inductor	CTF1635
L 351	(A,70,85) Chip Coil(UC)	LCTAW270J2520
L 351	Chip Coil(EW5)	LCTAW220J2520
L 352	(A,66,83) Chip Coil(UC)	LCTAW390J2520
L 352	Chip Coil(EW5)	LCTAW270J2520
L 353	(A,78,79) Inductor	LCKAW101J2520
L 371	(A,67,55) Inductor	CTF1630
L 372	(A,67,62) Inductor	CTF1630
L 373	(A,67,63) Inductor	CTF1630
L 380	(A,107,13) Inductor	CTF1488
T 841	(A,144,43) Transformer	CTT1119
TH 301	(B,91,46) Thermistor	CCX1051
X 1	(A,53,79) Crystal Resonator 42 MHz	CSS1604
X 301	(A,101,45) Radiator 12.58 MHz	CSS1601
VR 841	(A,137,73) Semi-fixed 10 kΩ(B)	CCP1423
⚠FU181	(A,108,10) Fuse 500 mA	CEK1251
⚠FU841	(A,134,52) Fuse 1.25 A	CEK1255

RESISTORS

R 1	(A,50,76)	RS1/16S105J
R 2	(A,50,78)	RS1/16S391J
R 3	(A,44,76)	RS1/16S152J
R 4	(A,46,79)	RS1/16S331J
R 5	(A,40,87)	RS1/16S0R0J
R 41	(A,29,87)	RS1/16S0R0J
R 42	(A,28,82)	RS1/16S101J
R 61	(A,21,58)	RS1/16S333J
R 62	(A,25,43)	RAB4CQ221J
R 63	(A,31,41)	RAB4CQ221J
R 64	(A,37,39)	RAB4CQ221J
R 65	(A,40,39)	RAB4CQ221J
R 67	(A,43,39)	RAB4CQ221J
R 68	(A,49,39)	RAB4CQ221J
R 69	(A,52,39)	RAB4CQ221J
R 101	(A,81,43)	RS1/16S101J
R 102	(A,89,40)	RS1/16S101J
R 103	(A,8,57)	RS1/16S472J
R 104	(A,11,45)	RS1/16S223J
R 106	(A,6,47)	RS1/16S3302F
R 107	(A,6,45)	RS1/16S5602F

Circuit Symbol and No.		Part No.
R 108	(A,6,42)	RS1/16S101J
R 111	(A,6,38)	RS1/16S153J
R 112	(A,11,33)	RS1/16S153J
R 113	(A,9,34)	RS1/16S0R0J
R 114	(A,9,33)	RS1/16S0R0J
R 115	(A,3,40)	RS1/16S100J
R 116	(A,11,40)	RS1/16S100J
R 117	(A,16,45)	RS1/16S681J
R 122	(A,59,27)	RS1/16S27R0D
R 124	(A,59,29)	RS1/16S10R0D
R 125	(A,59,32)	RS1/16S6800D
R 126	(A,60,32)	RS1/16S1000D
R 128	(A,60,35)	RS1/16S82R0F
R 132	(A,60,37)	RS1/16S56R0D
R 134	(A,59,37)	RS1/16S47R0D
R 136	(A,58,40)	RS1/16S36R0D
R 138	(A,57,37)	RS1/16S33R0F
R 142	(A,57,35)	RS1/16S27R0D
R 144	(A,57,32)	RS1/16S1800D
R 146	(A,57,29)	RS1/16S82R0F
R 148	(A,57,27)	RS1/16S12R0F
R 151	(A,27,35)	RS1/16S102J
R 171	(A,11,67)	RS1/16SS104J
R 172	(A,11,66)	RS1/16SS104J
R 173	(A,11,65)	RS1/16SS104J
R 174	(B,16,72)	RS1/16SS473J
R 175	(B,14,72)	RS1/16SS473J
R 176	(B,17,72)	RS1/16SS472J
R 177	(A,11,64)	RS1/16SS473J
R 181	(B,90,77)	RS1/16S3303D
R 182	(B,94,78)	RS1/16S1802F
R 183	(B,96,80)	RS1/16S821J
R 184	(B,94,77)	RS1/16S5102D
R 185	(A,92,79)	RS1/16S2202F
R 186	(A,93,77)	RS1/16S1802F
R 187	(A,93,74)	RS1/16S1002F
R 188	(B,103,72)	RS1/16S563J
R 191	(A,98,69)	RS1/16S150J
R 192	(A,105,70)	RS1/16S150J
R 193	(B,103,67)	RS1/16S273J
R 194	(B,107,59)	RS1/16S1600D
R 195	(B,107,58)	RS1/16S1001D
R 196	(B,109,60)	RS1/16S2700D
R 201	(B,99,57)	RS1/16S682J
R 203	(B,87,68)	RS1/16S5100F
R 204	(B,88,65)	RS1/16S2001F
R 216	(B,104,62)	RS1/16S333J
R 217	(B,104,58)	RS1/16S102J
R 218	(B,99,62)	RS1/16S684J
R 219	(B,92,58)	RS1/16S6801F
R 220	(B,97,56)	RS1/16S1001D
R 221	(B,95,56)	RS1/16S201J
R 222	(B,99,61)	RS1/16S182J
R 241	(A,37,58)	RS1/16S684J
R 242	(A,31,64)	RS1/16S474J
R 251	(A,115,42)	RS1/16S103J
R 252	(A,112,42)	RS1/16SS0R0J
R 253	(A,110,40)	RS1/16S473J
R 254	(A,114,40) (EW5)	RS1/16S473J
R 256	(A,115,40)	RS1/16S473J

Circuit Symbol and No.		Part No.
R 258	(A,114,37) (UC)	RS1/16S473J
R 260	(A,111,35)	RS1/16S473J
R 261	(A,113,37)	RS1/16S473J
R 263	(A,111,32)	RS1/16S473J
R 264	(A,112,29)	RAB4CQ102J
R 268	(B,122,40)	RS1/16S0R0J
R 270	(A,117,40)	RS1/16S473J
R 271	(A,110,16)	RS1/16S102J
R 283	(B,97,23)	RAB4CQ473J
R 284	(A,38,28)	RS1/16S272J
R 285	(A,36,28)	RS1/16S272J
R 286	(A,38,25)	RS1/16S471J
R 287	(A,33,28)	RS1/16S470J
R 288	(A,33,29)	RS1/16S470J
R 291	(A,38,30)	RAB4CQ471J
R 292	(A,38,35)	RAB4CQ471J
R 294	(B,85,50)	RS1/16S0R0J
R 296	(A,34,48)	RS1/16S473J
R 297	(A,37,50)	RS1/16S473J
R 298	(A,32,51)	RS1/16S223J
R 299	(A,95,45)	RAB4CQ123J
R 300	(A,98,43)	RS1/16S473J
R 301	(B,95,48)	RS1/16SS0R0J
R 302	(A,103,21)	RS1/16S471J
R 303	(A,107,43)	RS1/16S101J
R 304	(A,109,42)	RS1/16SS0R0J
R 305	(A,90,45)	RS1/16S153J
R 306	(A,114,26)	RS1/16S473J
R 307	(A,110,25)	RS1/16S103J
R 308	(A,101,21)	RS1/16S104J
R 309	(B,105,19)	RS1/16S103J
R 335	(A,63,70)	RS1/16S0R0J
R 337	(A,61,79)	RS1/16S101J
R 351	(A,75,79)	RS1/16S0R0J
R 352	(A,73,79)	RS1/16S104J
R 353	(A,78,82)	RS1/16S153J
R 354	(A,74,84)	RS1/16S104J
R 355	(A,71,81)	RS1/16S681J
R 356	(A,71,82)	RS1/16S471J
R 357	(A,65,80)	RS1/16S272J
R 358	(A,70,88)	RS1/16S391J
R 602	(A,142,85)	RS1/16S621J
R 603	(A,143,79)	RS1/16S103J
R 604	(A,141,77)	RS1/16S104J
R 605	(A,138,79)	RS1/16S473J
R 606	(A,143,84)	RS1/16S621J
R 607	(A,146,78)	RS1/16S821J
R 608	(A,143,82)	RS1/16S101J
R 609	(A,143,81)	RS1/16S101J
R 681	(A,118,20)	RS1/16S104J
R 682	(A,122,32)	RS1/16S104J
R 683	(A,122,21)	RS1/16S102J
R 684	(A,125,27)	RS1/16S102J
R 701	(A,73,18)	RS1/16S103J
R 722	(B,92,17)	RS1/16S470J
R 751	(B,62,18)	RS1/10S152J
R 752	(B,59,17)	RS1/10S751J
R 753	(B,59,19)	RS1/10S751J
R 754	(B,59,9)	RS1/10S751J
R 755	(B,59,11)	RS1/10S751J
R 757	(B,59,13)	RS1/10S152J
R 758	(B,59,15)	RS1/10S152J
R 759	(A,62,18) (UC)	RS1/10S751J
R 759	(EW5)	RS1/10S561J
R 760	(A,59,17)	RS1/16S0R0J
R 761	(B,70,13)	RS1/16S822J
R 842	(B,135,64)	RS1/16S103J
R 843	(A,148,77)	RS1/16S183J
R 844	(A,149,31)	RS1/16S473J
R 845	(A,151,79)	RS1/16S472J
R 846	(A,143,74)	RS1/16S513J
R 847	(B,137,73)	RS1/16S105J
R 848	(A,142,71)	RS1/16S563J
R 849	(A,150,73)	RS1/16S103J
R 850	(B,135,63)	RS1/16S105J
R 851	(A,136,68)	RS1/16S103J
R 853	(A,136,33)	RS1/16S561J
R 871	(A,128,73)	RS1/16S103J
R 872	(A,128,70)	RS1/16S104J
R 873	(A,125,70)	RS1/16S473J
R 874	(A,130,77)	RS1/16S105J
R 878	(B,132,68)	RS1/16S153J

CAPACITORS

C 1	(A,55,48)	CKSSYF104Z16
C 2	(A,55,52)	CKSSYF104Z16
C 3	(A,55,54)	CKSSYF104Z16
C 4	(A,55,59)	CKSSYF104Z16
C 5	(A,55,60)	CKSSYF104Z16
C 6	(A,55,65)	CKSSYF104Z16
C 7	(A,55,67)	CKSSYF104Z16
C 8	(A,55,70)	CKSSYF104Z16
C 9	(A,52,73)	CKSSYF104Z16
C 11	(A,50,74)	CKSSYF104Z16
C 12	(A,48,74)	CKSSYF104Z16
C 13	(A,46,74)	CKSSYF104Z16
C 14	(A,55,79)	CCSRCH9R0D50
C 15	(A,50,81)	CCSRCH9R0D50
C 16	(A,46,76)	CKSRYB103K50
C 17	(A,47,80)	CCSRCH181J50
C 18	(A,44,74)	CKSSYF104Z16
C 19	(A,43,76)	CCSRCH4R0D50
C 20	(A,45,81)	CKSRYF104Z16
C 22	(A,42,80)	CKSRYB104K25
C 23	(A,41,80)	CKSRYB104K25
C 24	(A,40,80)	CKSRYB104K25
C 25	(A,41,74)	CKSSYF104Z16
C 26	(A,38,81)	CKSRYB104K25
C 27	(A,38,87)	CKSRYB104K25
C 28	(A,38,79)	CKSRYB104K25
C 30	(A,39,74)	CKSSYF104Z16
C 31	(A,35,78)	CKSRYB104K25
C 32	(A,37,76)	CKSRYB104K25
C 33	(A,36,76)	CKSRYB104K25
C 34	(A,34,76)	CKSRYB104K25
C 35	(A,34,74)	CKSSYF104Z16
C 36	(A,34,80)	CKSSYF104Z16
C 37	(A,33,80)	CKSSYF104Z16
C 38	(A,32,80)	CKSSYF104Z16

Circuit Symbol and No.			Part No.
C 39	(A,31,77)		CKSRYB104K25
C 40	(A,30,77)		CKSRYB104K25
C 41	(A,31,74)		CKSSYF104Z16
C 42	(A,31,81)		CKSSYF104Z16
C 44	(A,30,74)		CKSSYF104Z16
C 45	(A,26,71)		CKSSYF104Z16
C 46	(A,25,68)		CKSSYF104Z16
C 47	(A,26,67)		CKSSYF104Z16
C 48	(A,28,81)		CCSRCH331J50
C 49	(A,25,62)		CKSSYF104Z16
C 53	(A,25,59)		CKSSYF104Z16
C 54	(A,26,57)		CKSSYF104Z16
C 55	(A,26,55)		CKSSYF104Z16
C 56	(A,25,53)		CKSSYF104Z16
C 57	(A,25,51)		CKSSYF104Z16
C 58	(A,24,51)		CKSSYF104Z16
C 59	(A,25,49)		CKSSYF104Z16
C 60	(A,26,47)		CKSRYF105Z10
C 62	(A,21,59)		CKSSYF104Z16
C 68	(A,33,44)		CKSSYF104Z16
C 69	(A,35,44)		CKSSYF104Z16
C 76	(A,39,44)		CKSSYF104Z16
C 83	(A,44,44)		CKSSYF104Z16
C 85	(A,46,44)		CKSSYF104Z16
C 89	(A,58,43)		CSZSR330M10
C 90	(A,46,43)		CKSSYF104Z16
C 91	(A,121,47)		CKSRYB104K25
C 92	(A,50,44)		CKSSYF104Z16
C 93	(A,53,45)		CKSSYF104Z16
C 94	(A,45,84)		CKSYF105Z16
C 95	(A,36,86)		CSZSR330M10
C 96	(A,51,85)		CSZSR330M10
C 97	(A,19,49)		CSZS100M16
C 98	(A,59,50)		CSZSR220M10
C 99	(A,59,71)		CSZSR220M10
C 100	(A,58,47)		CSZSR330M10
C 101	(A,15,43)		CKSSYF104Z16
C 102	(A,86,42)		CKSSYF104Z16
C 103	(A,8,61)		CKSRYB105K6R3
C 104	(A,12,59)		CKSRYB104K25
C 105	(A,9,53)		CKSRYB104K25
C 106	(A,15,52)		CKSRYB104K25
C 107	(A,7,54)		CSZSR220M16
C 108	(A,12,51)	4.7 μF	CCG1111
C 111	(A,6,50)		CKSRYB105K6R3
C 112	(A,9,41)		CKSRYF104Z16
C 121	(A,70,33)		CKSRYF104Z16
C 122	(A,63,37)		CKSSYF104Z16
C 123	(A,65,39)		CSZS100M16
C 151	(A,25,41)		CKSSYF104Z16
C 152	(A,31,34)		CKSSYF104Z16
C 153	(A,23,40)		CKSRYB104K25
C 154	(A,24,35)		CKSRYB104K25
C 155	(A,25,36)		CKSSYF104Z16
C 156	(A,31,36)		CSZSR330M10
C 157	(A,21,36)		CKSQYF334Z25
C 158	(A,27,39)		CSZS100M16
C 161	(A,29,41)		CKSSYF104Z16
C 162	(A,14,40)		CKSRYB104K25
C 163	(A,19,38)	4.7 μF	CCG1111

Circuit Symbol and No.			Part No.
C 164	(A,18,35)		CKSRYB104K25
C 181	(A,35,76)		CKSQYF105Z25
C 182	(A,96,81)		CKSQYF105Z25
C 183	(B,94,82)		CKSRYB104K25
C 184	(B,88,78)		CKSQYF105Z25
C 188	(A,35,81)		CKSQYF105Z25
C 190	(A,91,83)		CKSQYF225Z16
C 191	(A,39,84)		CKSQYF225Z16
C 192	(A,93,83)		CKSQYF105Z25
C 193	(A,39,78)		CKSRYF474Z16
C 194	(A,38,78)		CKSRYF474Z16
C 195	(A,95,76)		CKSYF475Z16
C 196	(B,94,80)		CKSRYB472K50
C 197	(B,94,81)		CKSRYB472K50
C 198	(A,36,53)		CKSQYF105Z25
C 199	(A,91,78)		CKSRYF474Z16
C 200	(A,37,83)		CKSQYF105Z25
C 201	(A,95,53)	33 μF/10 V	CCH1586
C 202	(A,95,55)		CKSRYB104K25
C 203	(A,102,65)		CKSRYB103K50
C 204	(A,101,59)	10 μF	CCG1223
C 205	(B,100,76)		CKSRYB103K50
C 206	(B,101,76)		CKSRYB105K6R3
C 207	(B,100,81)		CKSQYF105Z25
C 208	(B,101,71)		CKSRYB102K50
C 209	(B,101,74)		CKSRYB104K25
C 210	(A,123,47)		CKSQYF105Z25
C 211	(B,101,69)		CKSRYB105K6R3
C 212	(A,106,61)	10 μF	CCG1223
C 213	(B,103,66)		CKSRYB104K25
C 214	(A,106,57)	10 μF	CCG1223
C 215	(A,115,57)		CKSRYB104K25
C 216	(A,112,56)	68 μF/6.3 V	CCH1440
C 217	(B,104,61)		CCSRCH101J50
C 219	(B,107,61)		CKSRYB103K50
C 221	(B,104,59)		CCSRCH331J50
C 223	(B,101,61)		CKSRYB393K16
C 224	(B,99,60)		CKSRYB103K25
C 226	(B,99,58)		CKSRYB473K25
C 228	(B,91,62)		CKSRYB393K16
C 229	(B,87,70)		CKSRYB393K16
C 230	(A,39,70)		CKSRYB102K50
C 231	(B,85,68)		CKSRYB104K25
C 232	(B,86,64)		CSZS100M16
C 233	(A,92,74)		CKSRYB105K6R3
C 234	(A,38,67)		CKSRYB104K25
C 235	(A,97,77)		CKSRYB103K50
C 236	(A,38,56)		CKSRYF105Z10
C 237	(A,30,56)		CKSRYB104K25
C 238	(A,32,53)		CSZS100M10
C 239	(A,97,81)		CKSSYF104Z16
C 240	(A,105,63)		CKSRYB103K50
C 241	(A,34,64)		CKSRYF105Z10
C 242	(A,33,73)		CKSRYB104K25
C 243	(A,32,76)		CSZS100M10
C 244	(A,36,61)		CSZS100M16
C 245	(A,32,65)		CKSRYB104K25
C 248	(A,36,56)		CKSRYB104K25
C 251	(A,110,47)		CKSSYF104Z16
C 252	(A,113,44)		CKSRYB103K50

Circuit Symbol and No.		Part No.
C 253	(A,123,42)	CKSSYF104Z16
C 257	(A,90,47)	CSZSR330M10
C 258	(A,38,45)	CKSSYF104Z16
C 261	(A,102,42)	CKSSYF104Z16
C 301	(B,105,21)	CKSRYB105K6R3
C 302	(B,103,17)	CKSSYF104Z16
C 303	(B,95,17)	CKSSYF104Z16
C 304	(B,95,16)	CKSRYB104K50
C 305	(A,112,23)	CKSSYF104Z16
C 307	(A,90,44)	CKSRYB104K25
C 322	(A,64,72)	CSZS100M10
C 323	(A,64,74)	CKSRYF104Z16
C 333	(A,64,75)	CKSRYF104Z16
C 351	(A,75,81) 10 µF	CCG1171
C 352	(A,69,82) (UC)	CCSRCH680J50
C 352	(EW5)	CCSRCH470J50
C 353	(A,68,80) (UC)	CCSRCH101J50
C 353	(EW5)	CCSRCH680J50
C 354	(A,67,85) (UC)	CCSRCK2R0C50
C 354	(EW5)	CCSRCH5R0C50
C 355	(A,66,80) (UC)	CCSRCH680J50
C 355	(EW5)	CCSRCH470J50
C 356	(A,72,84)	CKSSYF104Z16
C 357	(A,75,76)	CSZSR330M10
C 385	(A,133,44) 10 µF	CCG1223
C 386	(A,133,47) 10 µF	CCG1223
C 387	(A,113,13)	CKSQYF224Z25
C 602	(A,141,83)	CKSRYB104K25
C 681	(A,128,26)	CKSRYB102K50
C 682	(A,125,20)	CKSRYB102K50
C 683	(A,119,32)	CKSRYB102K50
C 684	(A,116,20)	CKSRYB102K50
C 685	(A,120,29)	CKSSYF104Z16
C 686	(A,128,27)	CKSRYB102K50
C 687	(A,125,22)	CKSRYB102K50
C 751	(A,67,16)	AVR-M1608C080MTAAB
C 752	(A,65,16)	AVR-M1608C080MTAAB
C 753	(A,69,16)	AVR-M1608C080MTAAB
C 754	(B,87,23)	CKSSYF104Z16
C 755	(B,65,19)	CKSSYB102K50
C 843	(A,128,75)	CKSRYB104K25
C 844	(B,141,79)	CKSQYB105K10
C 845	(B,143,79)	CKSQYB474K16
C 846	(A,134,72)	CKSRYF105Z10
C 847	(B,147,77)	CKSRYF104Z50
C 848	(A,146,74)	CKSRYB562K50
C 849	(A,148,74)	CKSRYB152K50
C 852	(B,136,73)	CKSRYB103K50
C 853	(A,145,72)	CKSRYB473K50
C 854	(B,132,72)	CFHXSQ221J50
C 855	(A,135,70)	CKSRYB473K50
C 856	(A,150,70) 10 µF	CCG1223
C 857	(A,142,66) 10 µF	CCG1223
C 858	(A,135,61)	CKSQYB105K10
C 859	(A,136,24) 15 pF	CCG1194
C 861	(B,134,39)	CKSRYB153K50
C 862	(A,137,61)	CKSQYB105K10
C 871	(A,130,60)	CKSRYF104Z50
C 872	(A,126,62)	CKSRYF105Z10
C 891	(B,134,68)	CKSRYF104Z50

Circuit Symbol and No.		Part No.

L

Unit Number : CZW5026
Unit Name : Main PCB Unit

MISCELLANEOUS

IC 1	IC	BA6288FS
IC 2	IC	S-312C50AMC-C3E
IC 3	IC	TC7W14FU
IC 4	Photo-interrupter	GP2L24B
IC 5	Photo-interrupter	GP2L24B
Q 1	Transistor	2SB1185
Q 2	Transistor	IMX1
D 1	Diode	HZU6R2(B2)
L 2	Inductor	LCTAW2R2J2520
⚠FU1	Fuse 2 A	CEK1304

RESISTORS

R 1		RS1/16S223J
R 2		RS1/8S271J
R 3		RS1/16S332J
R 4		RS1/16S471J
R 5		RS1/16S222J
R 11		RS1/10S0R0J
R 12		RS1/16S222J
R 13		RS1/16S222J
R 14		RS1/16S821J
R 15		RS1/16S821J
R 19		RS1/16S102J
R 20		RS1/16S102J
R 21		RS1/16S102J
R 22		RS1/16S102J

CAPACITORS

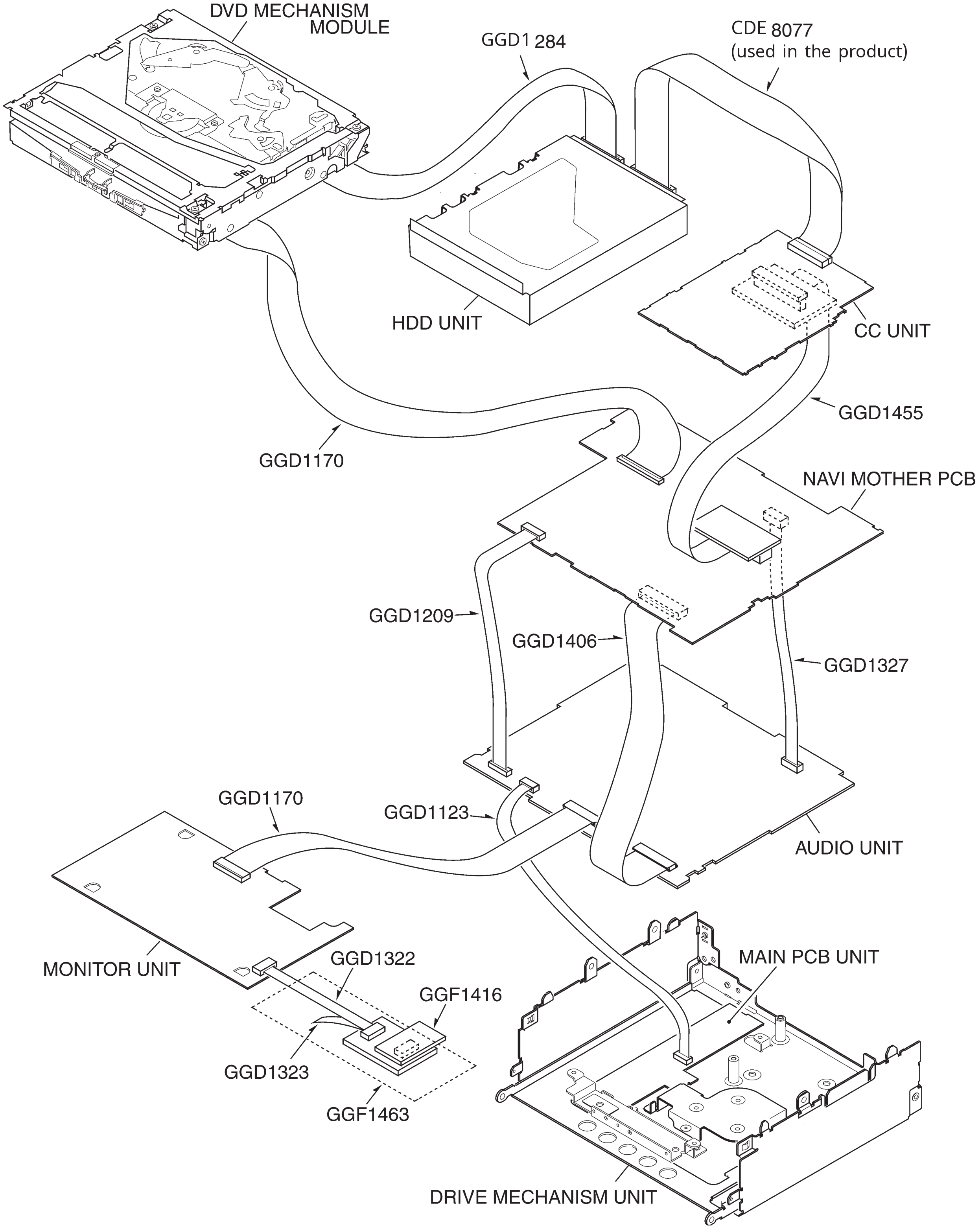
C 1		CKSRYB153K50
C 2	39 µF/16 V	CZC5169
C 3		CKSRYB105K10
C 7		CEVW100M16
C 8		CKSRYB104K50
C 9		CKSRYB473K50
C 10		CKSRYB473K50
C 11		CEVW100M16
C 12		CEVW100M16
C 13		CKSRYB104K50
C 14		CKSRYB104K50

Miscellaneous Parts List

	Pickup Unit(Service)(DP5)	CXX1945
M 1	Motor Unit(LOADING)	CXC4315
M 2	Motor Unit(CARRIAGE)	CXC4314
M 3	Motor(SPINDLE)	CXM1308

6. ADJUSTMENT

6.1 JIG CONNECTION DIAGRAM


DVD MECHANISM MODULE
GGD1284
CDE8077
(used in the product)
HDD UNIT
CC UNIT
GGD1455
GGD1170
NAVI MOTHER PCB
GGD1209
GGD1406
GGD1327
GGD1170
GGD1123
AUDIO UNIT
MONITOR UNIT
GGD1322
GGF1416
MAIN PCB UNIT
GGD1323
GGF1463
DRIVE MECHANISM UNIT

● Jigs List

Jig No.	Name	Remarks
GGD1455	122-Pin Extension Cable	Navi Mother PCB <-> CC Unit
GGD1170	40-Pin FFC	DVD Mechanism Module <--> Navi Mother PCB
GGD1 284	40-Pin FFC BBR	DVD Mechanism Module <--> HDD Unit
GGD1327	20-Pin Extension Cord	Navi Mother PCB <-> Audio Unit
GGD1406	80-Pin FFC	Navi Mother PCB <-> Audio Unit
GGD1209	20-Pin FFC	Navi Mother PCB <-> Audio Unit
GGD1123	15-Pin FFC	Audio Unit <-> Main PCB Unit
GGD1170	40-Pin FFC	Audio Unit <-> Monitor Unit
GGF1416	Jig for Monitor Adjustment	For OSD display
GGF1463	Conversion PCB for OSD display	GGF1416 Conversion
GGD1322	GGF1463 for repair	For repair
GGD1323	GGF1463 for repair	For repair

6.2 DVD ADJUSTMENT

● Skew adjustment

If any of the following replacements have been performed on the system, adjustments for pick up, must be conducted:

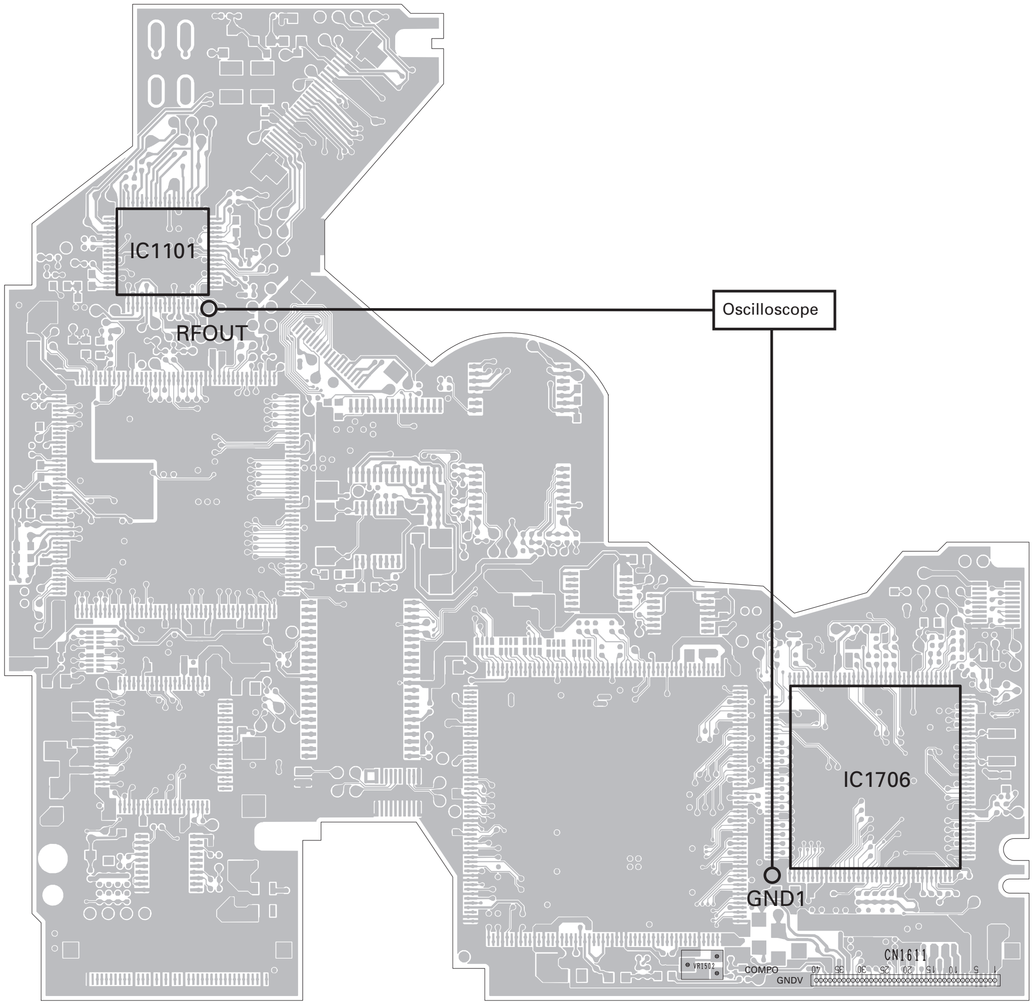
1. Pick up unit replacement
2. Spindle motor replacement
3. Carriage chassis replacement
4. Pick up unit main shaft replacement
5. Pick up unit sub-shaft replacement

Measurement device and tools : Oscilloscope
Allen key wrench
Screw rock(GYL1001)

Disk used : GGV1018
Measurement reference : GND1
Measurement point : RFOUT

Skew adjustment connection diagram

- DVD core unit (MS3)



Symptoms in case of poor adjustment: Error efficiency deteriorated: 10^{-3} (Optimum value: 10^{-4} or lower)
High jitter of the RF signal RF waveform deformed
Unstable operation in tracking closing and servo control

Caution: Avoid exposing your eyes to laser beams for a long time.
Preparation for adjustment: Clean both ends of the shafts.
Use brand new skew screws supplied with the service kit GXX1259.

Procedures:

1. Place the DVD mechanism module upside down.
   To avoid the disc from being robbed when it is turned upside down, first put a coin of about 1.5 mm on the table, then turn the disc upside down and set it so that the ① in the figure comes to the point immediately above the coin.
2. After replacing the pickup (by referring to the procedures of "Removing the Pickup."), roughly adjust the three skew screws through visual check so that the pickup is mounted in parallel to the CRG chassis around the inner and outer tacks.
3. Connect an oscilloscope as shown in the connecting diagram.
4. Turn on the power of the product. Load the test disc (GGV1018).
5. In the front-end test mode, set the disc type to DVD layer 1. Then, turn on the power. Move the pickup toward the inner tracks.
6. Turn on the laser diodes.
7. With the focus servo closed, complete all automatic adjustments. Close the tracking servo, and then complete all automatic adjustments.

8 Follow the next procedures, from 8-1 to 8-5, and adjust the (three) skew screws.

8-1 Move the pickup toward the inner track and turn the skew adjustment screw C so that the RF level of oscilloscope becomes the maximum.
(Tangential adjustment at the inner track position: Adjust the flatness of the disc at the inner track position with the adjustment screw C)

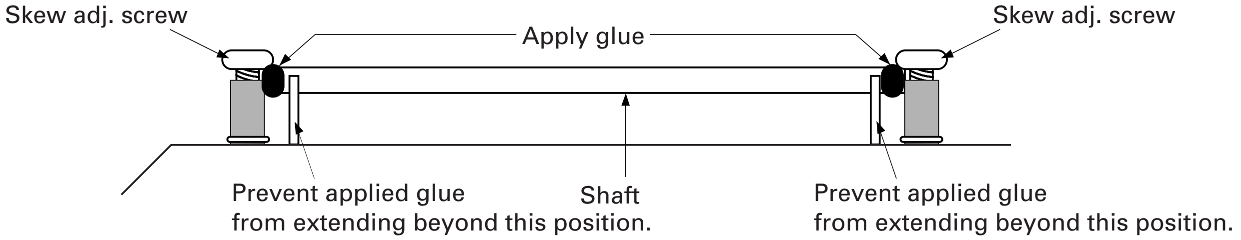
8-2 Move the pickup toward the outer track and turn the skew adjustment screw B so that the RF level becomes the maximum.
(Tangential adjustment at the outer track position: Adjust the flatness of the disc at the outer track position with the adjustment screw B)

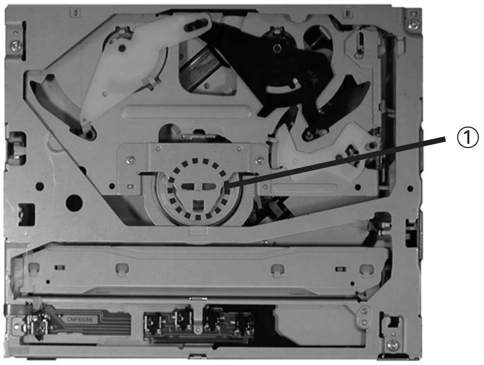
8-3 Leave the pickup at the outer track position and turn the skew adjustment screws A and B in the same direction alternately one quarter at a time (A•B•A•B •••) so that the RF level becomes the maximum.
(Radial adjustment at the outer track position: Keeping the flatness at the outer track position, adjust the flatness of the whole disk with the adjustment screws A and B)

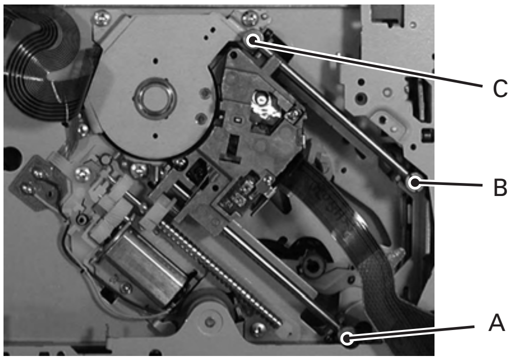
8-4 Move the pickup toward the inner track and turn the skew adjustment screw C so that the RF level becomes the maximum.
(Tangential adjustment at the inner track position: Adjust the flatness of the disc at the inner track position with the djustment screw C)

8-5 Repeat the steps from 8-2 to 8-4 three times, and adjust at the position where the RF level becomes the maximum.

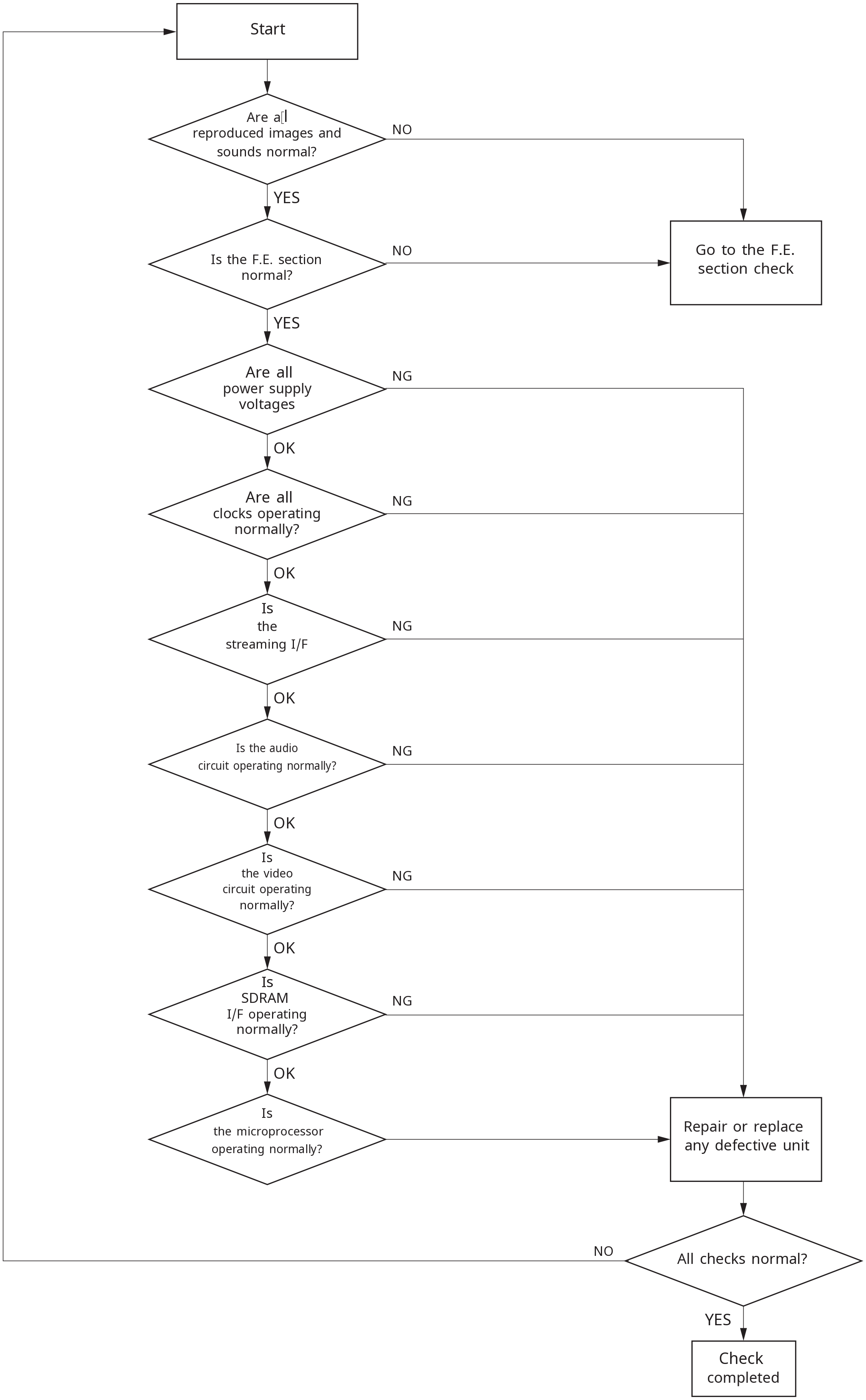
9. Turn off the power in the test mode. After confirming that the disc has stopped, eject the disc.
10. Adjust with a screw rock the shaft and skew adjustment screw to the same state as initial one.


Skew adj. screw
Apply glue
Skew adj. screw
Prevent applied glue from extending beyond this position.
Shaft
Prevent applied glue from extending beyond this position.





● Back end section check flow chart


Start
Are all reproduced images and sounds normal?
NO
YES
Is the F.E. section normal?
NO
Go to the F.E. section check
YES
Are all power supply voltages
NG
OK
Are all clocks operating normally?
NG
OK
Is the streaming I/F
NG
OK
Is the audio circuit operating normally?
NG
OK
Is the video circuit operating normally?
NG
OK
Is SDRAM I/F operating normally?
NG
OK
Is the microprocessor operating normally?
Repair or replace any defective unit
All checks normal?
NO
YES
Check completed

Check 1: Are all power supply voltages normal?

Reproduce DVD-REF-A1 Title 1.

Verify the voltage of the sensing pin.

If results are not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components.

NO.	Verification location	Rated value	Unit
1	VD8-PGND	8±0.4	V
2	VD33-GND	3.3±0.3	V
3	SRVDD33-GND	3.3±0.3	V
4	VCC5-GND	5±0.25	V
5	AVCC5-GND	5±0.3	V
6	VCC33-GND	3.3±0.15	V
7	VCC18-GND	1.8±0.15	V
8	VCC25-GND	2.5±0.2	V

Check 2: Are all clocks operating normally?

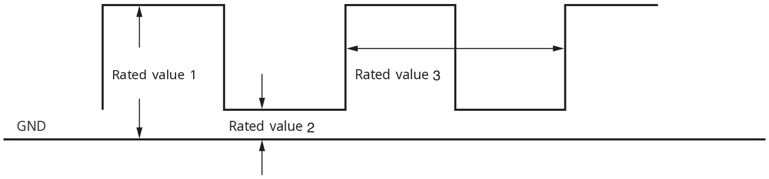
Reproduce DVD-REF-A1 Title 1.

Checks are to be conducted with a GND reference.

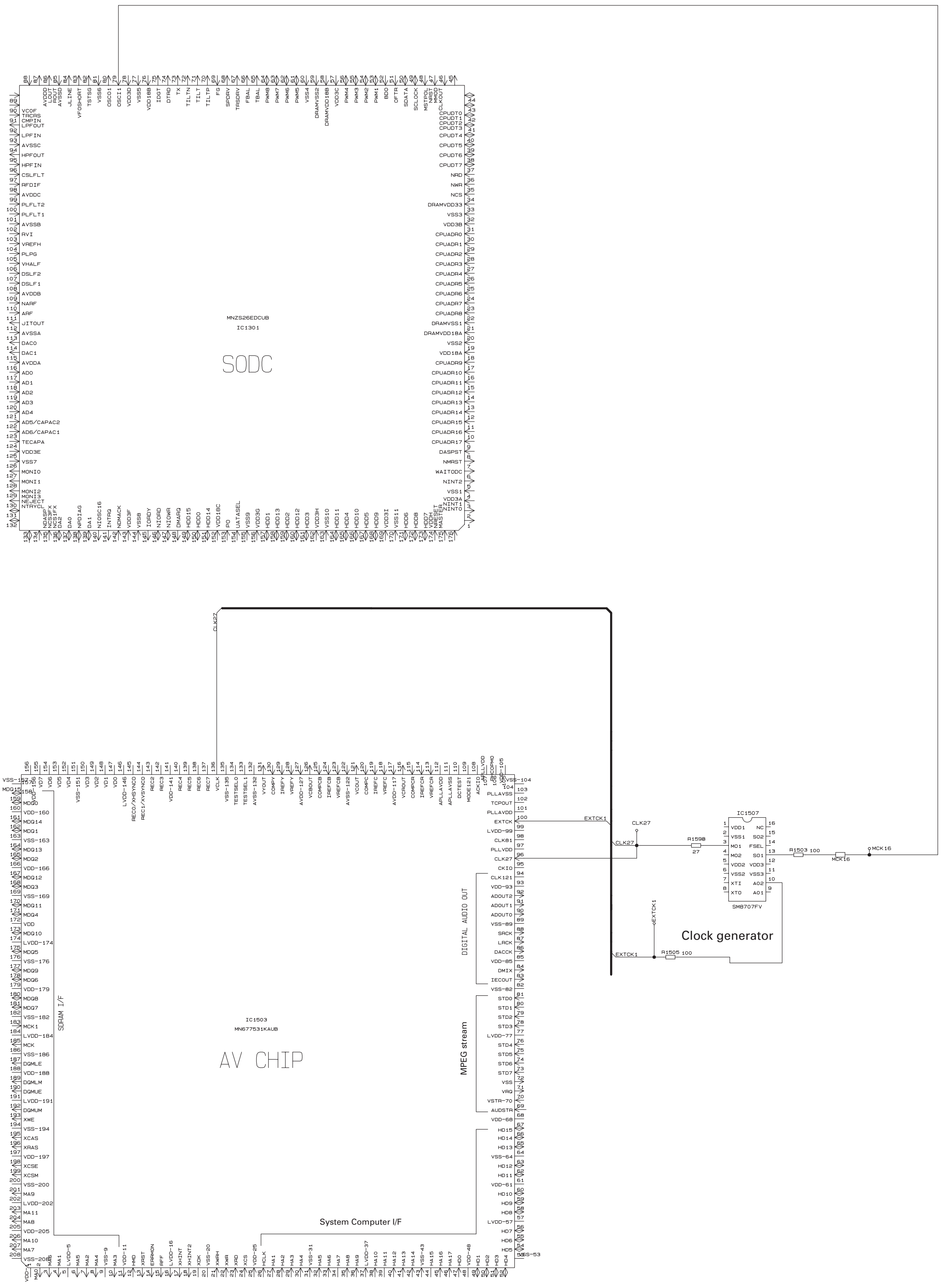
If locations listed under "verification location 2", can be verified, there will be no need to perform verifications for the locations listed under "verification location 1."

If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in the vicinity of IC1507.

NO.	Verification location 1 (contact measurements)	Verification location 2	Media	Rated value1	Rated value 2	Rated value 3
1	CLK27	IC1503 96pin	ALL	2.65V~VCC33	GND~0.65V	27MHz±50ppm
2	EXTCK1	IC1503 100pin	DVD	2.65V~VCC33	GND~0.65V	36.8640MHz±100ppm
3	EXTCK1	IC1503 100pin	CD	2.65V~VCC33	GND~0.65V	33.8688MHz±100ppm
4	MCK16	IC1301 79pin	ALL	2.33~VCC33	GND~0.99V	16.9344MHz±100ppm
5	MCK33	IC1601 3,33pin	ALL	2.33~VCC33	GND~0.10V	33.8688MHz~40.0000MHz



Clock rated values


SODC
MNZS26EDCUB
IC1301
AV CHIP
IC1503
MN677531KAUB
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
Clock generator
IC1507
SM8707FV
VDD1
VSS1
MO1
MO2
VDD2
VSS2
XTI
XTO
NC
SO2
FSEL
SO1
VDD3
VSS3
AO2
AO1
R1598
27
R1503 100
R1505 100
MCK16
CLK27
EXTCK1
EXTCK
CLK27
OSCI1

Check 3: Is the streaming I/F operating normally?

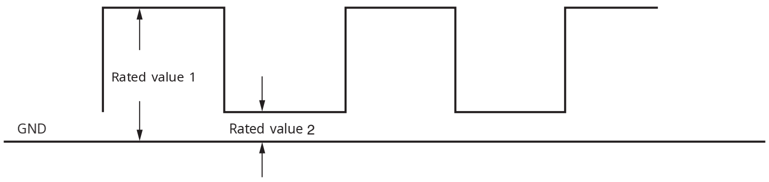
Reproduce DVD-REF-A1 Title 1.

Checks are to be conducted with a GND reference.

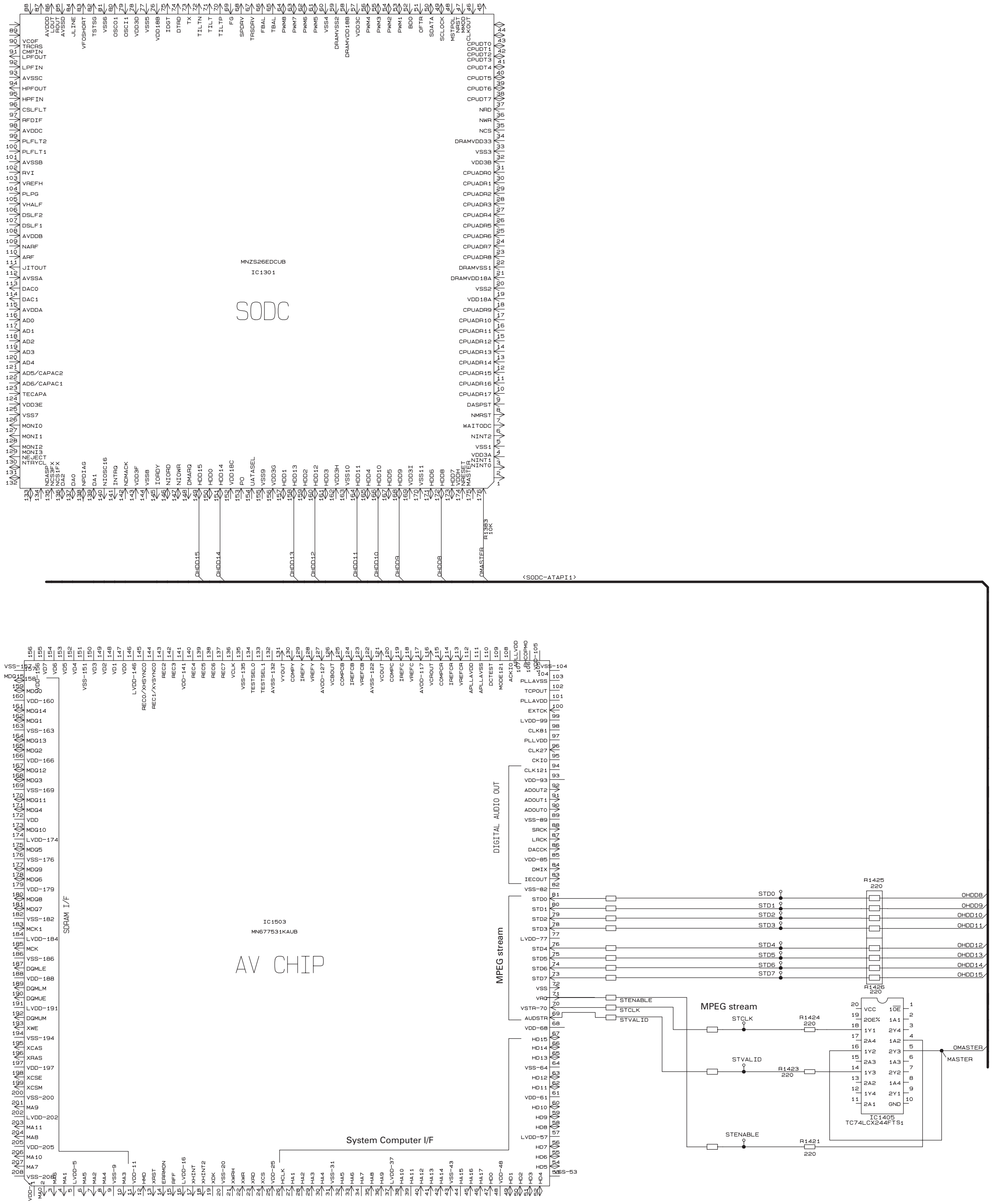
If the locations listed under "verification location 2" can be verified, then there is no need to conduct verifications for the locations listed under "verification location 1."

If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of“output "input"of the checked location.

NO.	Verification location 1 (contact measurements)	Verification location2	Verification Media	Rated value 1	Rated value 2	Reference waveform	Others
1	STD0	IC1503 81pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD8 at R1425
2	STD1	IC1503 80pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD9 at R1425
3	STD2	IC1503 79pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD10 at R1425
4	STD3	IC1503 78pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD11 at R1425
5	STD4	IC1503 76pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD12 at R1426
6	STD5	IC1503 75pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD13 at R1426
7	STD6	IC1503 74pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD14 at R1426
8	STD7	IC1503 73pin	DVD	2V~VCC33	GND~0.8V	Waveform 1	Line name OHDD15 at R1426
9	STCLK	IC1503 70pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name ODA2 at IC1405
10	STVALID	IC1503 69pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name OINTRQ at IC1405
11	MASTER	IC1301 176pin	DVD	2V~VCC33	GND~0.8V	Waveform 2	Line name STENABLE at IC1405



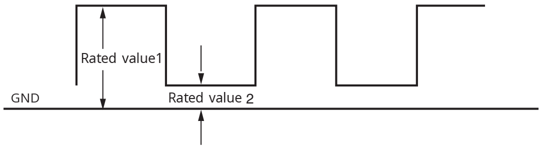
Streaming I/F rated value


MNZS26EDCUB
IC1301
SODC
R1383
10K
OHDD15
OHDD14
OHDD13
OHDD12
OHDD11
OHDD10
OHDD9
OHDD8
OMASTER
<SODC-ATAPI1>
IC1503
MN677531KAUB
AV CHIP
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
STD0
STD1
STD2
STD3
STD4
STD5
STD6
STD7
R1425
220
R1426
220
STENABLE
STCLK
STVALID
MPEG stream
R1424
220
R1423
220
R1421
220
IC1405
TC74LCX244FTS1
OMASTER
MASTER

Check 4: Is the audio circuit operating normally?

Reproduce DVD-REF-A1 Title 2 Chapter (48V/16-bit/1 kHz/0dB). Verify the circuit described in Figure 2.
Checks are to be conducted using GNDAU1 (sensing pins) as a reference.
If the locations, listed under "verification location 2", can be verified, there is no need to conduct verifications for the locations listed under "verification location 1."
If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in the vicinity of the main components.

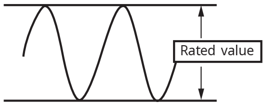
NO.	Verification location 1	Verification location 2	Rated value 1	Rated value 2	Reference waveform
1	AOUT0	IC1503 90pin	2.0V and over	0.8V and lower	Waveform 3
2	SRCK	IC1605 1pin	2.0V and over	0.8V and lower	Waveform 3
3	LRCK	IC1605 3pin	2.0V and over	0.8V and lower	Waveform 3



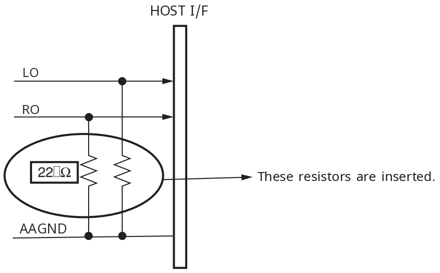
Three serial output rated values

Checks are conducted with the measurement circuit below.

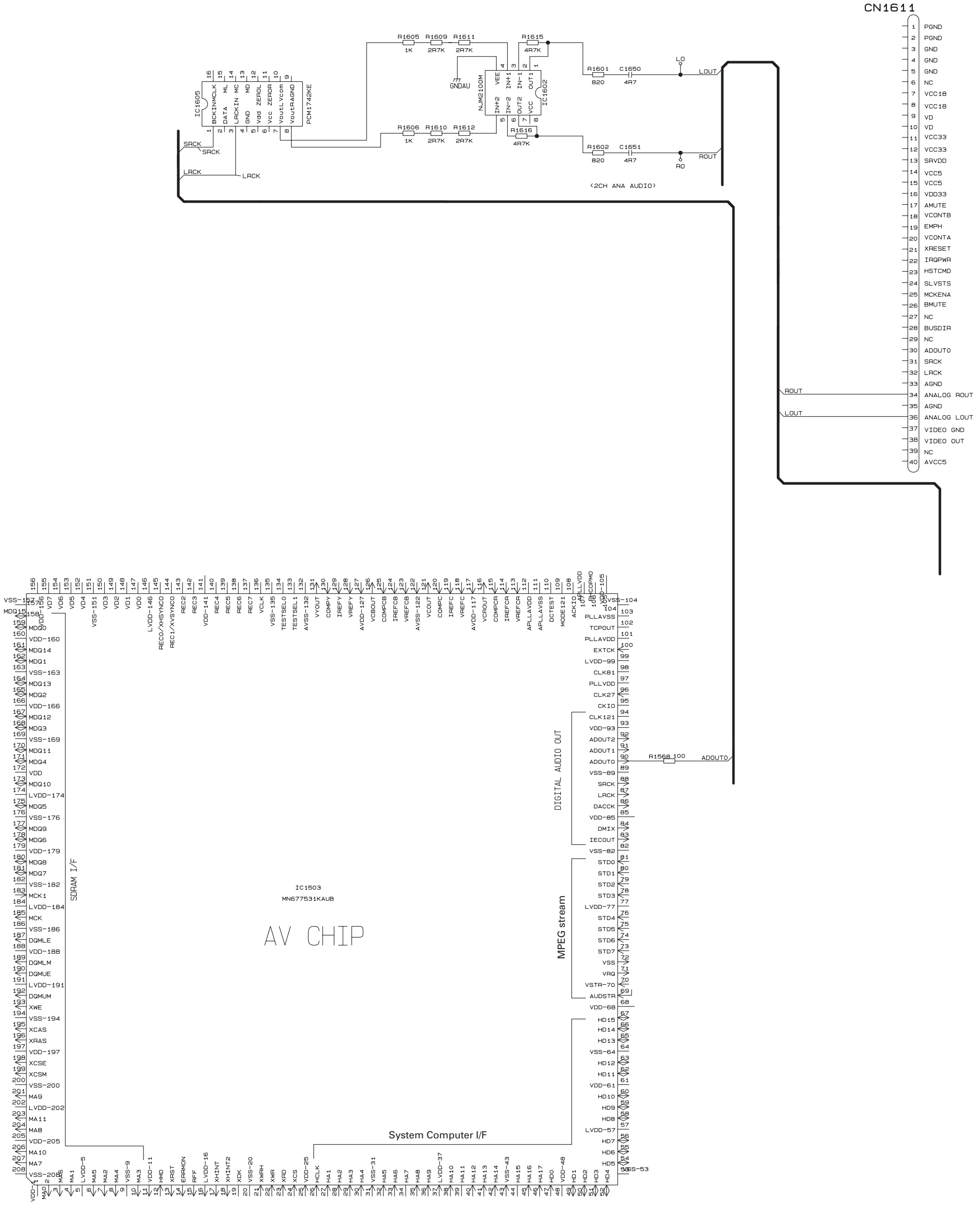
NO.	Verification location 1	Verification location 2	Rated value	Reference waveform
4	LO	CN1611 36pin	1100±150mV	Waveform 4
5	RO	CN1611 34pin	1100±150mV	Waveform 4



Analog audio outputs (LO and RO) rated values



LO and RO output measurement circuit

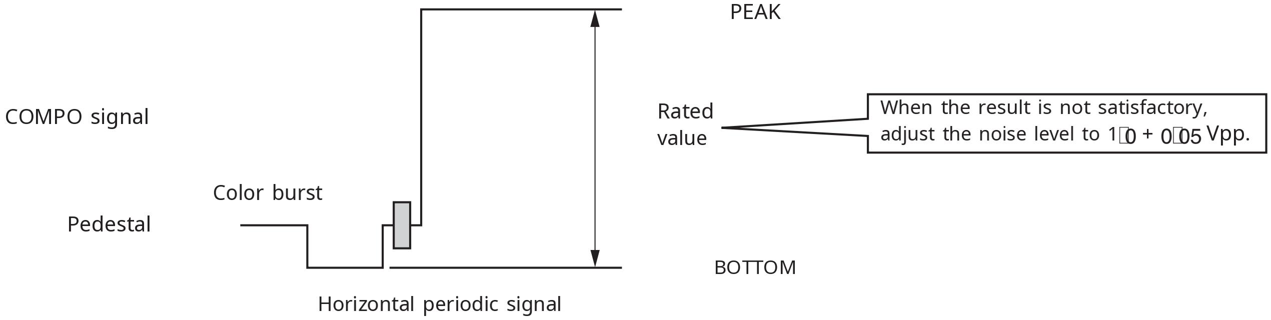

CN1611
1 PGND
2 PGND
3 GND
4 GND
5 GND
6 NC
7 VCC18
8 VCC18
9 VD
10 VD
11 VCC33
12 VCC33
13 SRVDD
14 VCC5
15 VCC5
16 VDD33
17 AMUTE
18 VCONTB
19 EMPH
20 VCONTA
21 XRESET
22 IRQPWR
23 HSTCMD
24 SLVSTS
25 MCKENA
26 BMUTE
27 NC
28 BUSDIR
29 NC
30 ADOUT0
31 SRCK
32 LRCK
33 AGND
34 ANALOG ROUT
35 AGND
36 ANALOG LOUT
37 VIDEO GND
38 VIDEO OUT
39 NC
40 AVCC5
ROUT
LOUT
IC1605
PCM1742KE
1 BCKIN
2 DATA
3 LRCKIN
4 GND
5 Vdd
6 Vcc
7 VoutL
8 VoutR
9 AGND
10 Vcom
11 ZEROR
12 ZEROL
13 MD
14 MC
15 ML
16 MCLK
SRCK
SRCK
LRCK
LRCK
R1605 1K
R1609 2R7K
R1611 2R7K
R1606 1K
R1610 2R7K
R1612 2R7K
GNDAU
IC1602
NJM2100M
1 OUT1
2 IN-1
3 IN+1
4 VEE
5 IN+2
6 IN-2
7 OUT2
8 VCC
R1615 4R7K
R1616 4R7K
R1601 820
C1650 4R7
R1602 820
C1651 4R7
LO
RO
LOUT
ROUT
<2CH ANA AUDIO>
IC1503
MN677531KAUB
AV CHIP
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
R1568 100
ADOUT0
1 VDD-1
2 MA0
3 MA6
4 MA1
5 LVDD-5
6 MA5
7 MA2
8 MA4
9 VSS-9
10 MA3
11 VDD-11
12 HMD
13 XRST
14 ERRMON
15 RFF
16 LVDD-16
17 XHINT
18 XHINT2
19 XDK
20 VSS-20
21 XWRH
22 XWR
23 XRD
24 XCS
25 VDD-25
26 HCLK
27 HA1
28 HA2
29 HA3
30 HA4
31 VSS-31
32 HA5
33 HA6
34 HA7
35 HA8
36 HA9
37 LVDD-37
38 HA10
39 HA11
40 HA12
41 HA13
42 HA14
43 VSS-43
44 HA15
45 HA16
46 HA17
47 HD0
48 VDD-48
49 HD1
50 HD2
51 HD3
52 HD4
53 VSS-53
54 HD5
55 HD6
56 HD7
57 LVDD-57
58 HD8
59 HD9
60 HD10
61 VDD-61
62 HD11
63 HD12
64 VSS-64
65 HD13
66 HD14
67 HD15
68 VDD-68
69 AUDSTR
70 VSTR-70
71 VRQ
72 VSS
73 STD7
74 STD6
75 STD5
76 STD4
77 LVDD-77
78 STD3
79 STD2
80 STD1
81 STD0
82 VSS-82
83 IECOUT
84 DMIX
85 VDD-85
86 DACCK
87 LRCK
88 SRCK
89 VSS-89
90 ADOUT0
91 ADOUT1
92 ADOUT2
93 VDD-93
94 CLK121
95 CKIO
96 CLK27
97 PLLVDD
98 CLK81
99 LVDD-99
100 EXTCK
101 PLLAVDD
102 TCPOUT
103 PLLAVSS
104 VSS-104
105 VDD-105
106 PHCOPMO
107 APLLVDD
108 ACKIO
109 MODE121
110 DCTEST
111 APLLAVSS
112 APLLAVDD
113 VREFCR
114 IREFCR
115 COMPCR
116 VCROUT
117 AVDD-117
118 VREFC
119 IREFC
120 COMPC
121 VCOUT
122 AVSS-122
123 VREFCB
124 IREFCB
125 COMPCB
126 VCBOUT
127 AVDD-127
128 VREFY
129 IREFY
130 COMPY
131 VYOUT
132 AVSS-132
133 TESTSEL1
134 TESTSEL0
135 VSS-135
136 VCLK
137 REC7
138 REC6
139 REC5
140 REC4
141 VDD-141
142 REC3
143 REC2
144 REC1/XVSYNC0
145 REC0/XHSYNC0
146 LVDD-146
147 VD0
148 VD1
149 VD2
150 VD3
151 VSS-151
152 VD4
153 VD5
154 VD6
155 VD7
156 VDD-156
157 VSS-157
158 MDQ15
159 MDQ0
160 VDD-160
161 MDQ14
162 MDQ1
163 VSS-163
164 MDQ13
165 MDQ2
166 VDD-166
167 MDQ12
168 MDQ3
169 VSS-169
170 MDQ11
171 MDQ4
172 VDD
173 MDQ10
174 LVDD-174
175 MDQ5
176 VSS-176
177 MDQ9
178 MDQ6
179 VDD-179
180 MDQ8
181 MDQ7
182 VSS-182
183 MCK1
184 LVDD-184
185 MCK
186 VSS-186
187 DQMLE
188 VDD-188
189 DQMLM
190 DQMUE
191 LVDD-191
192 DQMUM
193 XWE
194 VSS-194
195 XCAS
196 XRAS
197 VDD-197
198 XCSE
199 XCSM
200 VSS-200
201 MA9
202 LVDD-202
203 MA11
204 MA8
205 VDD-205
206 MA10
207 MA7
208 VSS-208

Check 5: Is the video circuit operated normally?

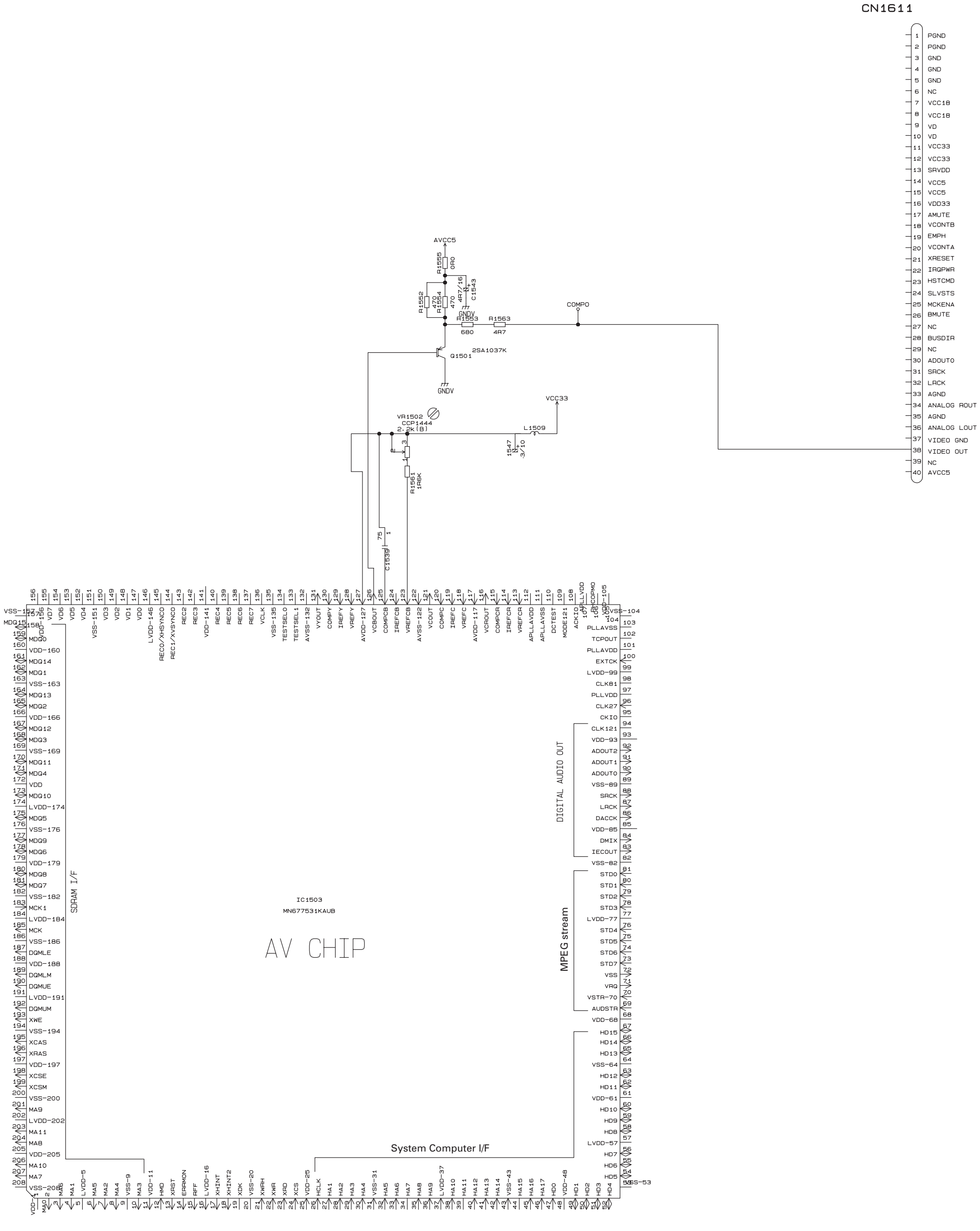
Reproduce DVD-REF-A1 Title 2 Chapters (White 100IRE).
Monitor the output with the oscilloscope, by setting the COMPO signal to a GND reference.
Set the Trigger mode to the TV trigger, and the Trigger line to line-150.

NO.	Verification location (sensing pin)	Rated value	Reference waveform
1	COMPO	1.0±0.05Vpp	Waveform 5

If the result is not satisfactory, check to see if there are any problems with resin flux cored solder, parts and components, in the vicinity of line-150 (the section marked ⑤ in the circuit diagram) and peripheral components.


PEAK
COMPO signal
Rated value
When the result is not satisfactory, adjust the noise level to 1.0 + 0.05 Vpp.
Color burst
Pedestal
BOTTOM
Horizontal periodic signal

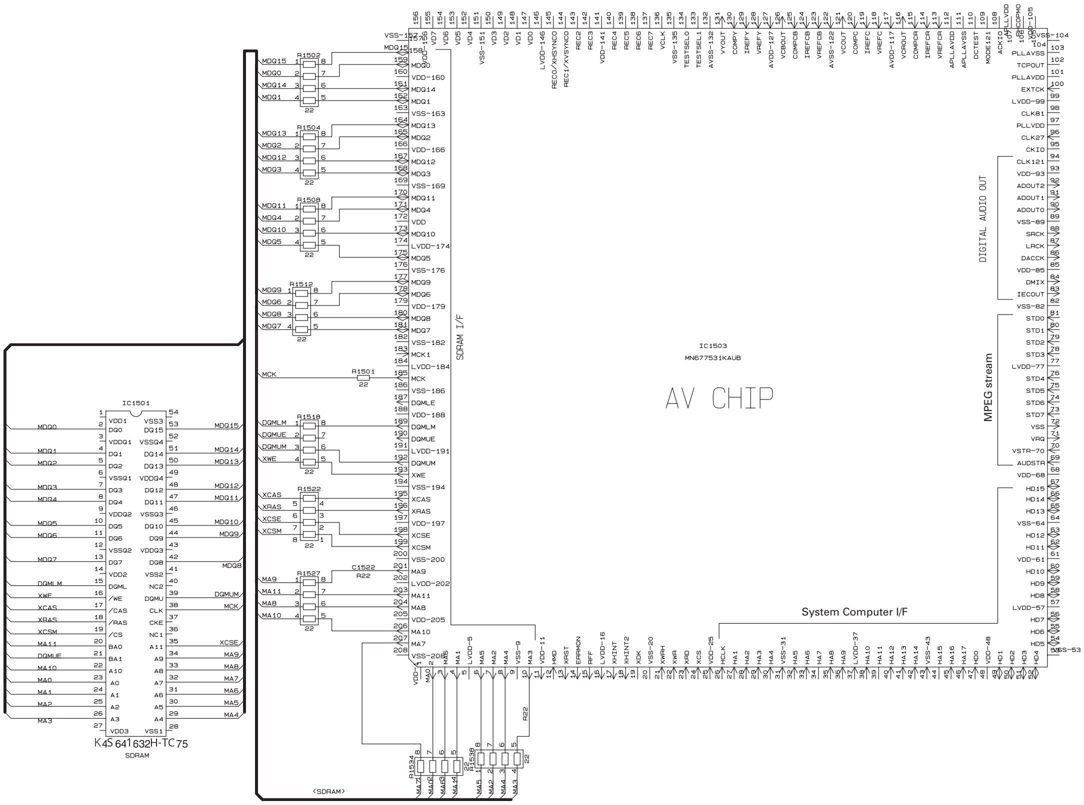
Composite signal 100% output waveform


CN1611
1 PGND
2 PGND
3 GND
4 GND
5 GND
6 NC
7 VCC18
8 VCC18
9 VD
10 VD
11 VCC33
12 VCC33
13 SRVDD
14 VCC5
15 VCC5
16 VDD33
17 AMUTE
18 VCONTB
19 EMPH
20 VCONTA
21 XRESET
22 IRQPWR
23 HSTCMD
24 SLVSTS
25 MCKENA
26 BMUTE
27 NC
28 BUSDIR
29 NC
30 ADOUT0
31 SRCK
32 LRCK
33 AGND
34 ANALOG ROUT
35 AGND
36 ANALOG LOUT
37 VIDEO GND
38 VIDEO OUT
39 NC
40 AVCC5
AVCC5
R1555
0R0
4R7/16
C1543
R1552
470
R1554
470
GNDV
R1553
680
R1563
4R7
COMPO
Q1501
2SA1037K
GNDV
VCC33
VR1502
CCP1444
2.2k(B)
L1509
1547
.3/10
R1561
1R6K
75
C1539
IC1503
MN677531KAUB
AV CHIP
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
VD7
VD6
VD5
VD4
VSS-151
VD3
VD2
VD1
VD0
LVDD-146
REC0/XHSYNCO
REC1/XVSYNCO
REC2
REC3
VDD-141
REC4
REC5
REC6
REC7
VCLK
VSS-135
TESTSEL0
TESTSEL1
AVSS-132
VYOUT
COMPY
IREFY
VREFY
AVDD-127
VCBOUT
COMPCB
IREFCB
VREFCB
AVSS-122
VCOUT
COMPC
IREFC
VREFC
AVDD-117
VCROUT
COMPCR
IREFCR
VREFCR
APLLAVDD
APLLAVSS
DCTEST
MODE121
ACKIO
APLLVDD
PHCOPMO
VDD-105
VSS-104
PLLAVSS
TCPOUT
PLLAVDD
EXTCK
LVDD-99
CLK81
PLLVDD
CLK27
CKIO
CLK121
VDD-93
ADOUT2
ADOUT1
ADOUT0
VSS-89
SRCK
LRCK
DACCK
VDD-85
DMIX
IECOUT
VSS-82
STD0
STD1
STD2
STD3
LVDD-77
STD4
STD5
STD6
STD7
VSS
VRQ
VSTR-70
AUDSTR
VDD-68
HD15
HD14
HD13
VSS-64
HD12
HD11
VDD-61
HD10
HD9
HD8
LVDD-57
HD7
HD6
HD5
VSS-53
VSS-157
MDQ15
MDQ0
VDD-160
MDQ14
MDQ1
VSS-163
MDQ13
MDQ2
VDD-166
MDQ12
MDQ3
VSS-169
MDQ11
MDQ4
VDD
MDQ10
LVDD-174
MDQ5
VSS-176
MDQ9
MDQ6
VDD-179
MDQ8
MDQ7
VSS-182
MCK1
LVDD-184
MCK
VSS-186
DQMLE
VDD-188
DQMLM
DQMUE
LVDD-191
DQMUM
XWE
VSS-194
XCAS
XRAS
VDD-197
XCSE
XCSM
VSS-200
MA9
LVDD-202
MA11
MA8
VDD-205
MA10
MA7
VSS-208
VDD-1
MA0
MA6
MA1
LVDD-5
MA5
MA2
MA4
VSS-9
MA3
VDD-11
HMO
XRST
ERRMON
RFF
LVDD-16
XHINT
XHINT2
XCK
VSS-20
XWRH
XWR
XRD
XCS
VDD-25
HCLK
HA1
HA2
HA3
HA4
VSS-31
HA5
HA6
HA7
HA8
HA9
LVDD-37
HA10
HA11
HA12
HA13
HA14
VSS-43
HA15
HA16
HA17
HD0
VDD-48
HD1
HD2
HD3
HD4

Check 6: Is SDRAM I/F operating normally?

Reproduce DVD-REF-A1 Title 1.
Check the conductivity of both the "Verification location 1" and the "Verification location2."
If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of “output "input" of the checked location.

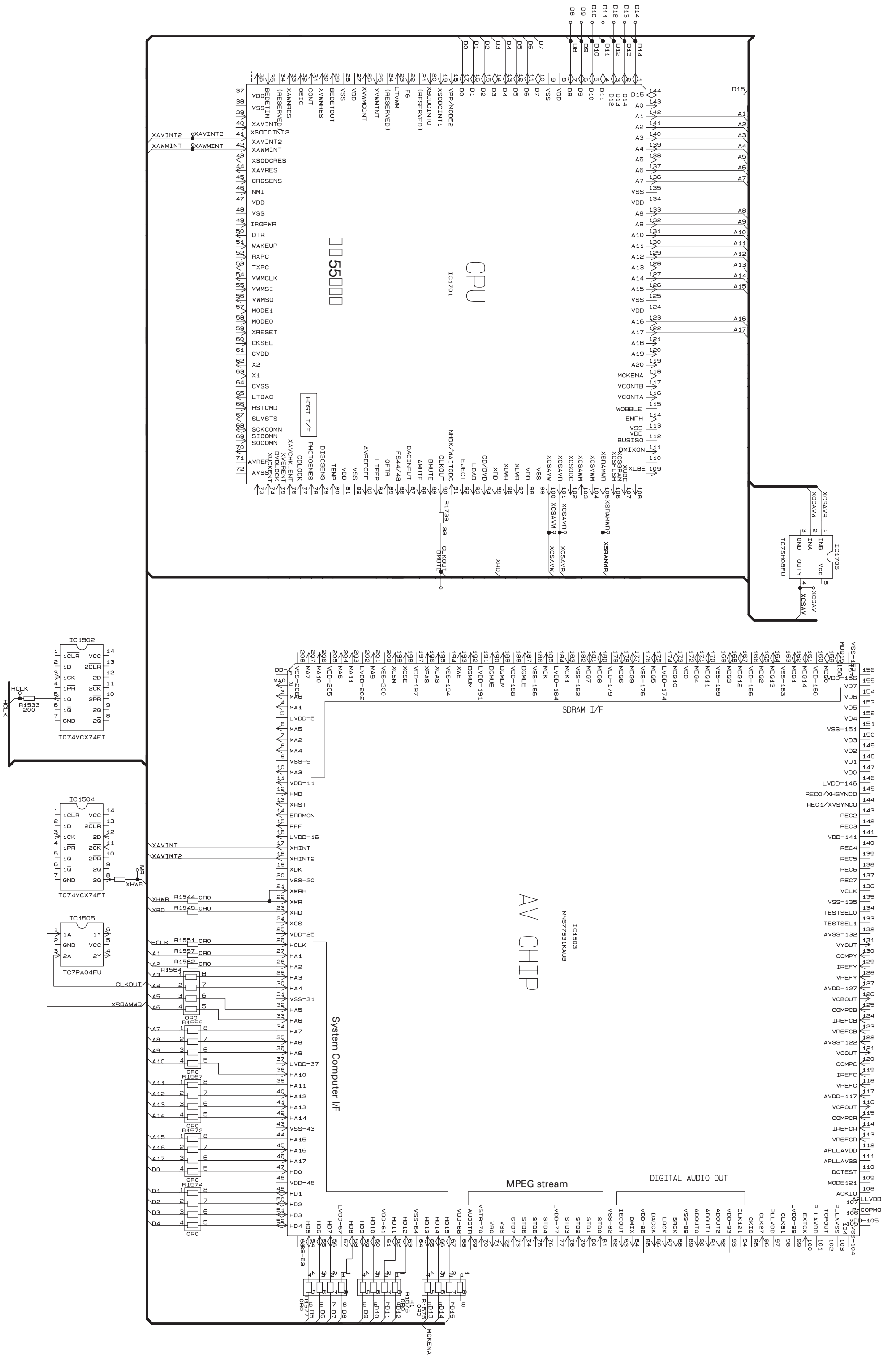
NO.	Signal name	Verification location 1	Verification location 2	Rated value
1	MA0	IC1501 23pin	IC1503 2pin	22Ω ± 5%
2	MA1	IC1501 24pin	IC1503 4pin	22Ω ± 5%
3	MA2	IC1501 25pin	IC1503 7pin	22Ω ± 5%
4	MA3	IC1501 26pin	IC1503 10pin	22Ω ± 5%
5	MA4	IC1501 29pin	IC1503 8pin	22Ω ± 5%
6	MA5	IC1501 30pin	IC1503 6pin	22Ω ± 5%
7	MA6	IC1501 31pin	IC1503 3pin	22Ω ± 5%
8	MA7	IC1501 32pin	IC1503 207pin	22Ω ± 5%
9	MA8	IC1501 33pin	IC1503 204pin	22Ω ± 5%
10	MA9	IC1501 34pin	IC1503 201pin	22Ω ± 5%
11	MA10	IC1501 22pin	IC1503 206pin	22Ω ± 5%
12	MA11	IC1501 20pin	IC1503 203pin	22Ω ± 5%
13	MDQ0	IC1501 2pin	IC1503 159pin	22Ω ± 5%
14	MDQ1	IC1501 4pin	IC1503 162pin	22Ω ± 5%
15	MDQ2	IC1501 5pin	IC1503 165pin	22Ω ± 5%
16	MDQ3	IC1501 7pin	IC1503 168pin	22Ω ± 5%
17	MDQ4	IC1501 8pin	IC1503 171pin	22Ω ± 5%
18	MDQ5	IC1501 10pin	IC1503 175pin	22Ω ± 5%
19	MDQ6	IC1501 11pin	IC1503 178pin	22Ω ± 5%
20	MDQ7	IC1501 13pin	IC1503 181pin	22Ω ± 5%
21	MDQ8	IC1501 42pin	IC1503 180pin	22Ω ± 5%
22	MDQ9	IC1501 44pin	IC1503 177pin	22Ω ± 5%
23	MDQ10	IC1501 45pin	IC1503 173pin	22Ω ± 5%
24	MDQ11	IC1501 47pin	IC1503 170pin	22Ω ± 5%
25	MDQ12	IC1501 48pin	IC1503 167pin	22Ω ± 5%
26	MDQ13	IC1501 50pin	IC1503 164pin	22Ω ± 5%
27	MDQ14	IC1501 51pin	IC1503 161pin	22Ω ± 5%
28	MDQ15	IC1501 53pin	IC1503 158pin	22Ω ± 5%
29	MCK	IC1501 38pin	IC1503 185pin	22Ω ± 5%
30	XWE	IC1501 16pin	IC1503 193pin	22Ω ± 5%
31	XCAS	IC1501 17pin	IC1503 195pin	22Ω ± 5%
32	XRAS	IC1501 18pin	IC1503 196pin	22Ω ± 5%
33	XCSM	IC1501 19pin	IC1503 199pin	22Ω ± 5%
34	XCSE	IC1501 35pin	IC1503 198pin	22Ω ± 5%
35	DQMUM	IC1501 39pin	IC1503 192pin	22Ω ± 5%
36	DQMLM	IC1501 15pin	IC1503 189pin	22Ω ± 5%
37	DQMUE	IC1501 21pin	IC1503 190pin	22Ω ± 5%


IC1501
K4S641632H-TC75
SDRAM
IC1503
MN677531KAUB
AV CHIP
SDRAM I/F
DIGITAL AUDIO OUT
MPEG stream
System Computer I/F
R1502
R1504
R1508
R1512
R1501
R1518
R1522
R1527
C1522
R22
R1534
R1538
22
<SDRAM>
MDQ0
MDQ1
MDQ2
MDQ3
MDQ4
MDQ5
MDQ6
MDQ7
MDQ8
MDQ9
MDQ10
MDQ11
MDQ12
MDQ13
MDQ14
MDQ15
DQMLM
DQMUE
DQMUM
XWE
XCAS
XRAS
XCSE
XCSM
MCK
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA8
MA9
MA10
MA11

Check 7: Is the microprocessor operating normally?

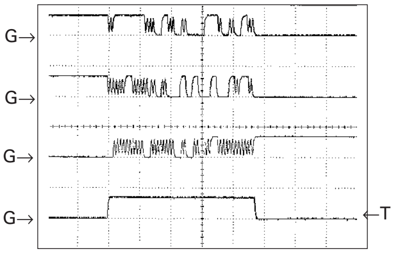
Check the conductivity of both the "Verification location 1" and the "Verification location2."
If the result is not satisfactory, check to see if there are any problems with the resin flux cored solder, parts and components, in areas where a problem occurs, for the overall sequence of "output – input" of the checked location.

NO.	Signal name	Verification location 1	Verification location 2	Verification Media	Rated value	Others
1	A1	IC1701 142pin	IC1503 27pin	ALL	0Ω	
2	A2	IC1701 141pin	IC1503 28pin	ALL	0Ω	
3	A3	IC1701 140pin	IC1503 29pin	ALL	0Ω	
4	A4	IC1701 139pin	IC1503 30pin	ALL	0Ω	
5	A5	IC1701 138pin	IC1503 32pin	ALL	0Ω	
6	A6	IC1701 137pin	IC1503 33pin	ALL	0Ω	
7	A7	IC1701 136pin	IC1503 34pin	ALL	0Ω	
8	A8	IC1701 133pin	IC1503 35pin	ALL	0Ω	
9	A9	IC1701 132pin	IC1503 36pin	ALL	0Ω	
10	A10	IC1701 131pin	IC1503 38pin	ALL	0Ω	
11	A11	IC1701 130pin	IC1503 39pin	ALL	0Ω	
12	A12	IC1701 129pin	IC1503 40pin	ALL	0Ω	
13	A13	IC1701 128pin	IC1503 41pin	ALL	0Ω	
14	A14	IC1701 127pin	IC1503 42pin	ALL	0Ω	
15	A15	IC1701 126pin	IC1503 44pin	ALL	0Ω	
16	A16	IC1701 123pin	IC1503 45pin	ALL	0Ω	
17	A17	IC1701 122pin	IC1503 46pin	ALL	0Ω	
18	D0	IC1701 17pin	IC1503 47pin	ALL	0Ω	
19	D1	IC1701 16pin	IC1503 49pin	ALL	0Ω	
20	D2	IC1701 15pin	IC1503 50pin	ALL	0Ω	
21	D3	IC1701 14pin	IC1503 51pin	ALL	0Ω	
22	D4	IC1701 13pin	IC1503 52pin	ALL	0Ω	
23	D5	IC1701 12pin	IC1503 54pin	ALL	0Ω	
24	D6	IC1701 11pin	IC1503 55pin	ALL	0Ω	
25	D7	IC1701 10pin	IC1503 56pin	ALL	0Ω	
26	D8	IC1701 7pin	IC1503 58pin	ALL	0Ω	
27	D9	IC1701 6pin	IC1503 59pin	ALL	0Ω	
28	D10	IC1701 5pin	IC1503 60pin	ALL	0Ω	
29	D11	IC1701 4pin	IC1503 62pin	ALL	0Ω	
30	D12	IC1701 3pin	IC1503 63pin	ALL	0Ω	
31	D13	IC1701 2pin	IC1503 65pin	ALL	0Ω	
32	D14	IC1701 1pin	IC1503 66pin	ALL	0Ω	
33	D15	IC1701 144pin	IC1503 67pin	ALL	0Ω	
34	XCSAVR	IC1701 101pin	IC1706 1pin	ALL	0Ω	
35	XCSAVW	IC1701 100pin	IC1706 2pin	ALL	0Ω	
36	XCSAV	IC1706 4pin	IC1503 24pin	ALL	0Ω	
37	XAVINT	IC1701 42pin	IC1503 17pin	ALL	0Ω	
38	XAVINT2	IC1701 41pin	IC1503 18pin	ALL	0Ω	
39	XRD	IC1701 95pin	IC1503 23pin	ALL	0Ω	
40	CLKOUT	IC1701 90pin	IC1505 3pin	ALL	33Ω	Dividing circuitFor verification location 2, include also IC1502 pin-3
41	HCLK	IC1502 5pin	IC1503 26pin	ALL	200Ω ± 5 %	
42	XSRAMWR	IC1701 105pin	IC1505 1pin	ALL	0Ω	
43	XHWR	IC1504 8pin	IC1503 21pin	ALL	68Ω ± 5 %	


CPU
IC1701
HOST I/F
IC1706
TC7SH08FU
IC1502
TC74VCX74FT
IC1504
TC74VCX74FT
IC1505
TC7PA04FU
AV CHIP
IC1503
MN677531KAUB
SDRAM I/F
System Computer I/F
MPEG stream
DIGITAL AUDIO OUT
HCLK
CLKOUT
XSRAMWR
XAVINT2
XAWMINT
XAVINT
XHWR
XRD
XCSAV
XCSAVW
XCSAVR
R1739
R1533
R1544
R1545
R1551
R1557
R1562
R1564
R1559
R1567
R1572
R1574
MCKENA

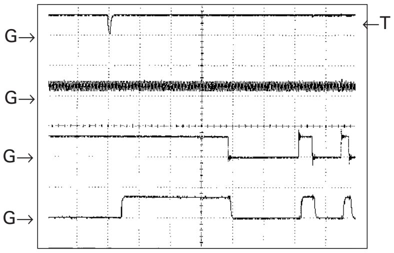
Note:1 The encircled number denote measuring pointes in the circuit diagram.
2 Reference voltage VHALF : 1.65V

⑪ CH1: STD1
⑫ CH2: STD4
⑬ CH3: STD7
⑭ CH4: STENABLE
5V/div. 2µs/div.



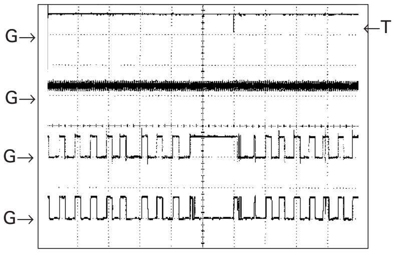
Wave 1

⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 2µs/div.



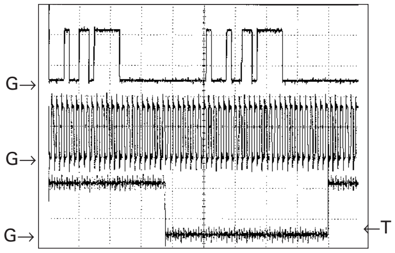
Wave 2(1)

⑮ CH1: AVRTM
⑯ CH2: STCLK
⑰ CH3: STVALID
⑭ CH4: STENABLE
5V/div. 50µs/div.



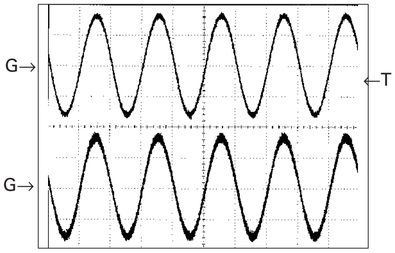
Wave 2(2)

⑱ CH1: AOUT0
⑲ CH2: SRCKAV
⑳ CH3: LRCKAV
2V/div. 2µs/div.



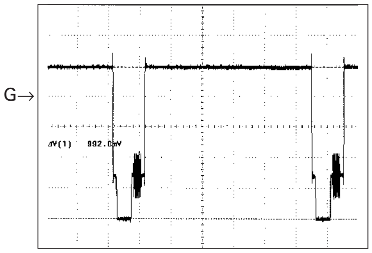
Wave 3

㉒ CH1: LO
㉓ CH2: RO
1V/div. 500µs/div.



Wave 4

㉔ CH1: COMPO 200mV/div. 10µs/div.
[White 100% output]

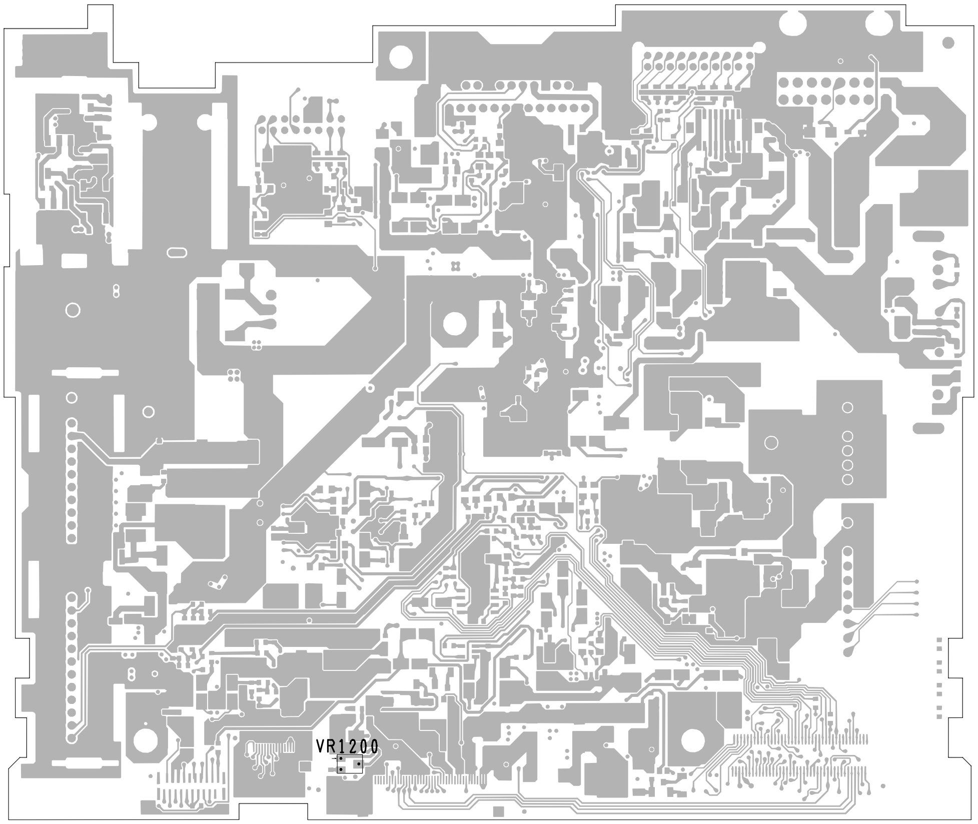


Wave 5

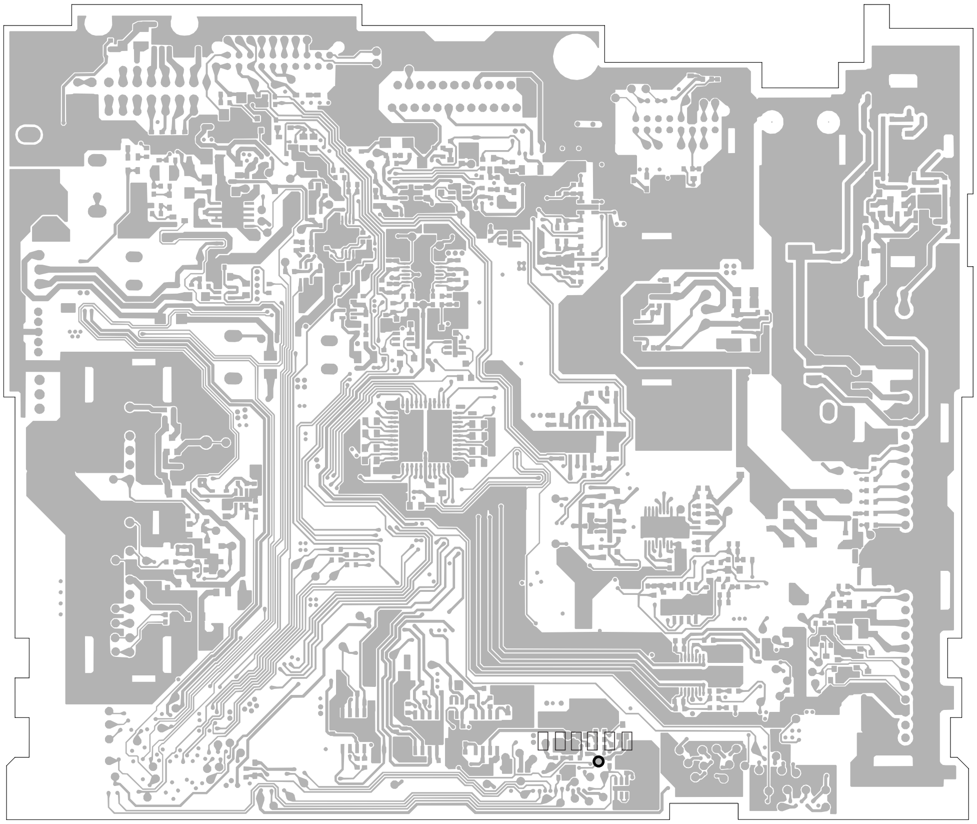
6.3 VIDEO LEVEL ADJUSTMENT

● Adjustment Point

Audio Unit(SIDE A)



Audio Unit(SIDE B)



[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]					
[illegible]	[illegible]		[illegible]00[illegible] [illegible]	[illegible] [illegible]0[illegible] Ω [illegible] 	[illegible]	[illegible]0 + 0[illegible]02 − 0[illegible]05[illegible]	[illegible]200

[illegible]

6.4 PLL ADJUSTMENT

<How to adjust VR of PLL area>

[Purpose] When parts shown below are replaced, adjustment is required.
IC 4001 inside the CC unit ・ Part replacement on PLL circuit area block on the CC unit.

[The sign of insufficient adjustment]
Distortion of the screen

[Method] (Please refer to the pictures below.)

1 With HDD unconnected, connect the navigation unit to the product and apply power.
(The caution "HDD is unconnected." will appear in 10 seconds.)

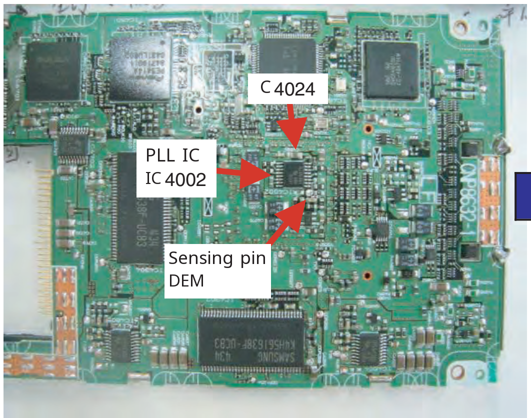
2 Confirm that the voltage on both sides of C 4024 (B side) attached to IC 4002 power supply terminal pin No.16 is within 3.3 ± 0.1V.

3 Control the potential of the sensing pin DEM (B side) at the IC 4002 DEMOUT terminal (10 pin) to within 1.5 ± 0.1V while adjusting the VR 4001(A side).

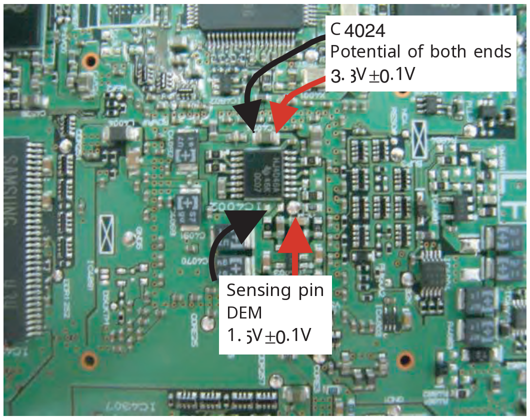
Be aware that extension of a CC unit, etc may cause the potential of3.3 V to go beyond the limit.

[Concerns] When parts are replaced in IC 4001(NAVICORE)/PLL circuit area, adjustment is required.
Other cases than that also require confirmation.

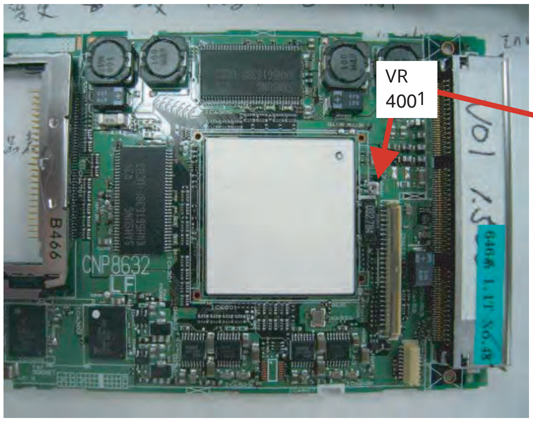
B side of the CC unit



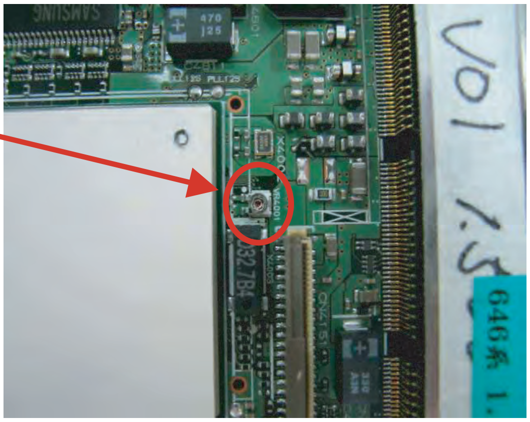
The scale-up of B side of the CC unit



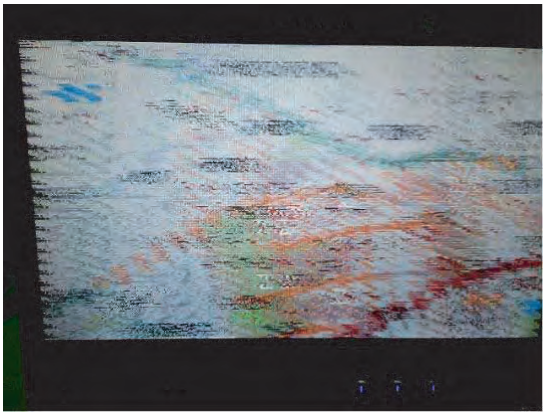
A side of the CC unit



The scale-up of A side of the CC unit



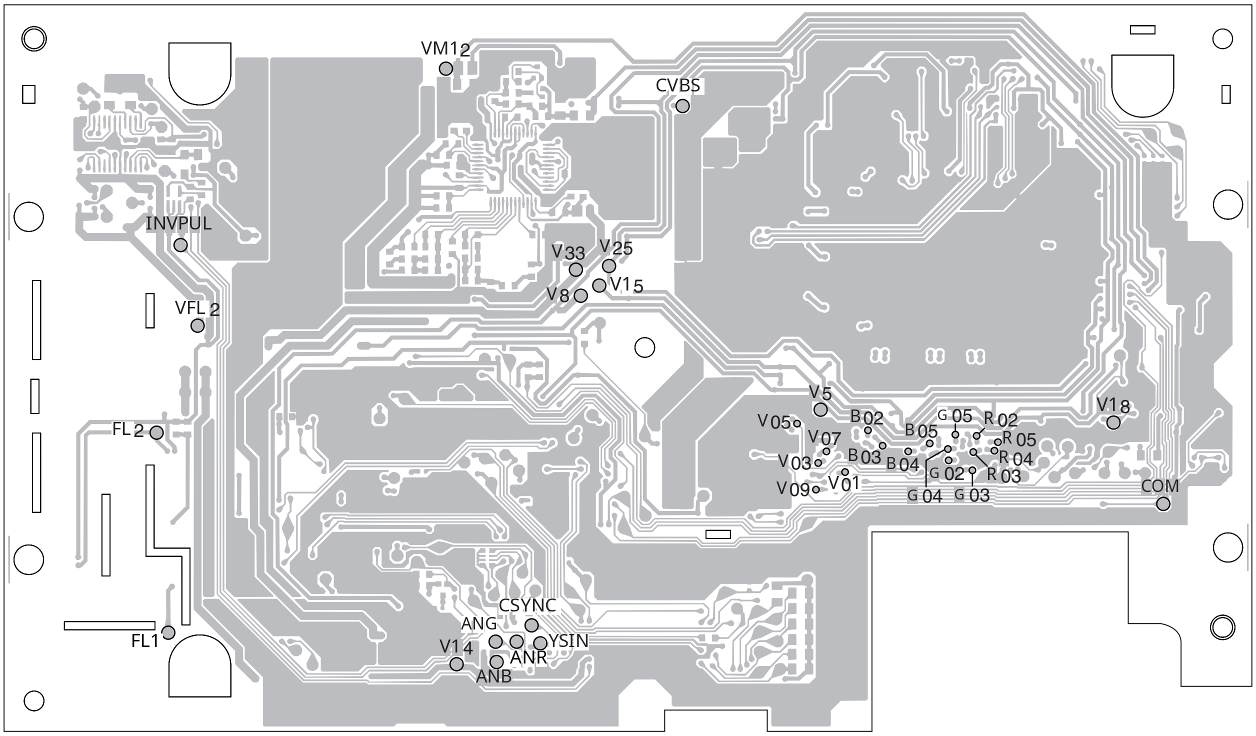
[When adjustment is improper.]Distortion of the navigation screen



6.5 MONITOR UNIT ADJUSTMENT

● Adjustment Point

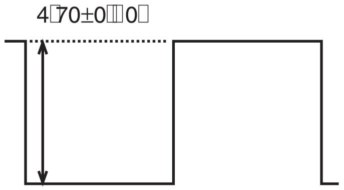
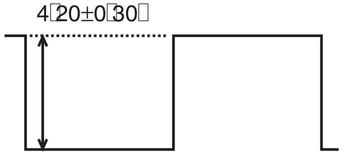
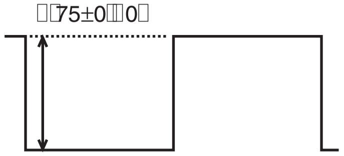
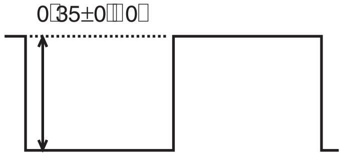
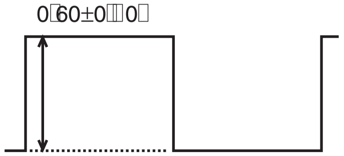
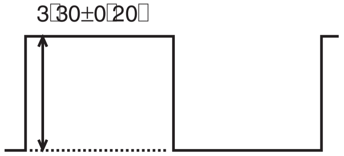
Monitor Unit(SIDE B)

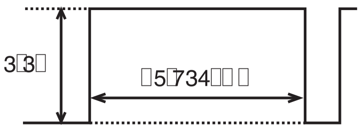
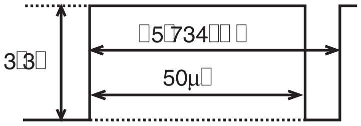
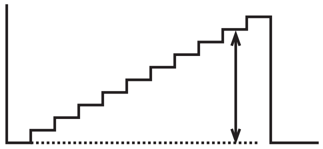

VM12
CVBS
INVPUL
V33
V25
V15
V8
VFL2
V5
V18
V05
B02
G05
R02
V07
B05
R05
V03
B03
B04
R04
G02
R03
V09
V01
G04
G03
COM
FL2
CSYNC
ANG
YSIN
V14
ANR
ANB
FL1

[illegible] 90 96 [illegible]

[illegible] 5 [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] 3 3 [illegible]	4 4 [illegible] 4	33		33 3 3±0 25	[illegible]
2	[illegible] 2 5 [illegible]	[illegible]	25		25 2 5±0 5	[illegible]
3	[illegible] 5 [illegible]	[illegible]	5		5 5±0 08	[illegible]
4	[illegible] 5 [illegible]	[illegible]	5		5 4 9±0 30	[illegible]
5	[illegible] 8 [illegible]	[illegible]	8		8 8 0±0 50	[illegible]
6	[illegible] 8 5 [illegible]	[illegible]	8		8 8 5±0 80	[illegible]
7	[illegible] –2 [illegible]	[illegible]	2		2 –2 0±0 60	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
9	[illegible]	[illegible]	□□ □0□			[illegible]
□0	[illegible] □□3□	[illegible]	□□ □03			[illegible]
□□	[illegible] □□5□	[illegible]	□□ □05			[illegible]
□2	[illegible] □□7□	[illegible]	□□ □07			[illegible]
□3	[illegible] □□9□	[illegible]	□□ □09			[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]				0 3 3 [illegible] 0 [illegible]
5	[illegible]	[illegible] 00 [illegible] 0 70 [illegible] ± [illegible]	[illegible] 02 05 [illegible] 02 05 [illegible] 02 05		[illegible] 3 3 [illegible] 	[illegible]
6	[illegible]	[illegible] 0 [illegible] [illegible] 0 [illegible] ± [illegible]	[illegible]	[illegible] 3 [illegible] 5 0	[illegible] 9 [illegible] 0 [illegible] 77 ±0 03 [illegible] 	[illegible]
7	[illegible]	[illegible] 0 3 3			[illegible]	
8	[illegible]	[illegible]		[illegible] 2 [illegible] 3 0	[illegible] 8 [illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]

[illegible] ** [illegible] 90 96 [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible] 4 [illegible] 4±0 [illegible] 2 [illegible] 4 [illegible] 4 [illegible] 4±0 [illegible] 2 [illegible] [illegible]	[illegible] 2	[illegible] 84 [illegible]	47 [illegible] 9 [illegible] 48 [illegible]	[illegible] 00 [illegible] Ω [illegible] 2 [illegible] [illegible] 2 [illegible] [illegible]
2	[illegible]	[illegible] 530 [illegible] [illegible] 53 [illegible]	[illegible] 2		49 [illegible] 2± [illegible] 0 [illegible]	[illegible] [illegible] 49 [illegible] 2 [illegible]
3	[illegible] 2 [illegible] [illegible]	[illegible] 540 [illegible]	[illegible] 2		52 [illegible] 4± [illegible] 0 [illegible]	[illegible] [illegible] 52 [illegible] 4 [illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			[illegible] 30 [illegible]	
2	[illegible]			[illegible] → [illegible] → [illegible]	
3	[illegible]	[illegible]		[illegible] * * [illegible] * * [illegible]	[illegible] 50 [illegible] 50 [illegible] [illegible] * * [illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]			[illegible]	[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]			[illegible] 30 [illegible] 5 [illegible] 50±5° [illegible]	
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 50 [illegible] 50 [illegible] [illegible] [illegible]

● EEPROM adjustment mode

[Operation Specification]

- For displaying OSD, install a jig (GGF1416 and GGF1463) for monitor adjustment onto Service OSD connector for CN5.
- When ACC is turned ON with [EPRTES/EPTESA] terminal in Low status, shift to [Flicker adjustment mode] will occur.
- Switch the setting modes with the [map] key.
  [Flicker adjustment mode]→ [Line adjustment 1 mode]→ [Line adjustment2 mode]→ [Line adjustment3 mode]→ → [Line adjustment4 mode]→ [Line adjustment5 mode]→ [Line adjustment6 mode]→ [Line adjustment7 mode]→ → [Line adjustment8 mode]→ [Line adjustment9 mode]→ [Line adjustment 10 mode]→ [Dimmer parameter setting mode]→ [Flicker adjustment mode]
- Select items to be adjusted using the [↓] [↑] keys.
- Adjust items selected using the [←] [→] keys.

※ It is possible to shift to the adjustment mode also while performing the monitor adjustment using a test disc.
※ After set values are written in EEPROM, they are read out and displayed.
Writing and reading shall be performed in 16 bit unit. Settings have different bit numbers item by item.
※ Values for CS (checksum) calculation have 8 Bit XOR when they are changed and writing will be done.
After this CS values are written into EEPROM, they are read out and displayed.
When the written values are different from the read-out ones, the read-out ones should be colored differently.
※ When the service adjustment mode is involved, this test mode does not start.
(Shift to the service adjustment mode)

[Display specification of each mode]

Examples of actual OSD display are shown within the heavy line frame.
Numerical values in the adjusted values to be written are the segment that changes according to the adjustment for each screen.
The adjustment details and the item display are items for design review and line adjustment.

■ Flicker adjustment mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
Common inverse output center value	[0-255]	COM DC	92		

※■ Note 1: Details of [COM DC] shall be reflected on the common inverse output center reference value.
(Common inverse output center reference value is treated as an initial value to be set in the line.)

■ Line adjustment 1 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE1
Bright	[0-255]	BRIGHT	150	NOT	EEPROM
RGB simultaneous contrast	[0-255]	CONTRAST	168	NOT	EEPROM
Common inverse output frequency adjusted value	[0-255]	COM AMPAJ	150		
R output DC offset	[0-15]	ROUT BIAS	8		
G output DC offset	[0-15]	GOUT BIAS	8		
B output DC offset	[0-15]	BOUT BIAS	8		
Main Y contrast	[0-63]	RGB CNTRST	34		
Sub Y Contrast	[0-63]	CMP CNTRST	26		
		DTR ON	61		
				CS	FFFF

It is set as ON.

Monitor Microcomputer 5 pin [COM AC] Output voltage (V) = 4.8 (V) X [BRIGHT] Value/255

- In order to correct variation in hardware, common inverse output frequencies should be adjusted in the line.
- [COM AMPAJ] is an initial value set in the line and memorized in EEPROM bank 1.
- While the product is in normal operation, [BRIGHT] value is decided by [COM AMPAJ] and this value controls the 5-pin [COM AC] output of the monitor microprocessor.
- In the single monitor operation test mode, the user-configurable "color density" is not reflected in "BRIGHT" value.
- When [COM AMPAJ] is adjusted, [BRIGHT] changes according to it.
  ([COM AMPAJ] has the same value kept in memory as [BRIGHT] value at the time of "black density" step 0.)

- When the test mode starts in the stage of the product, the user configurable "color density" will be reflected in "BRIGHT" value.
  Even if "BRIGHT" value is changed in the test mode, it will not be reflected in the user setting value.

※■ Note 1: Contents of [BRIGHT] and [CONTRAST] are reference values (adjustable) for adjusting the other items and are not memorized in EEPROM.
※■ Note 2: Be aware that [R, G, BOUT BIAS] and [RGB, CMP CNTRST] have different indicated values/ EEPROM written values and double window IC (TC90A96FG□P) register setting values.
(As the double window IC register value and the screen output are not related linearly, software is used for conversion.)

[R,G,BOUT BIAS]

Indicated value (=Adjusted value) (DEC)	EEPROM written value (DEC)	Double screen IC register value (BIN)	
15	15	0111	(MAX)
14	14	0110	
• •	• •	• •	
9	9	0001	
8	8	0000	(TYP)
7	7	1111	
• •	• •	• •	
1	1	1001	
0	0	1000	(MIN)

[RGB,CMP CNTRST]

Indicated value (=Adjusted value) (DEC)	EEPROM written value (DEC)	Double screen IC register value (BIN)	
63	63	011111	(MAX)
62	62	011110	
• •	• •	• •	
33	33	000001	
32	32	000000	(TYP)
31	31	111111	
• •	• •	• •	
1	1	100001	
0	0	100000	(MIN)

■ Line adjustment 2 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE 2
RGB & YS horizontal alignment	[0-255]	DOT H POSIT	63		
YS sampling phase 1	[0-15]	YS SAMPL	8		
AD sampling phase B	[0-15]	B SAMPL	8		
AD sampling phase G	[0-15]	G SAMPL	8		
AD sampling phase R	[0-15]	R SAMPL	8		
YS internal delay adjustment	[0-15]	YS DELAY	8		
				CS	FFFF

※■ Note 1: Be aware that [YS, R, G, B SAMPL] and [YS DELAY] have different indicated values/EEPROM written values and double window IC(TC90A96FG-P) register set values.
(As the double window IC register values and the screen output are not related linearly, software is used for conversion.)

Indicated value (=Adjusted value) (DEC)	EEPROM written value (DEC)	Double screen IC register value (BIN)	
15	15	0111	(MAX)
14	14	0110	
• •	• •	• •	
9	9	0001	
8	8	0000	(TYP)
7	7	1111	
• •	• •	• •	
1	1	1001	
0	0	1000	(MIN)

■ Line adjustment3 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE3
Dot search threshold	[0-255]	TH DOT	112		
YS search threshold	[0-4]	TH YS	3		
Phase search threshold	[0-255]	TH PHASE	112		
Xdisp	[0-63]	X DISP	32		
YSdisp	[0-4]	YS DISP	2		
				CS	FFFF

■ Line adjustment4 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE4
Main horizontal enhancer gain	[0-3]	M H GAIN	0		
Main horizontal enhancer limiter	[0-3]	M H LIMIT	0		
Main horizontal enhancer F0	[0-1]	M H F0	0		
Main vertical enhancer gain	[0-3]	M V GAIN	0		
Main vertical enhancer loopback	[0-3]	M V ORI	0		
Main vertical enhancer coring	[0-3]	M V CORE	0		
				CS	FFFF

■ Line adjustment5 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE5
Sub horizontal enhancer gain	[0-3]	S H GAIN	1		
Sub horizontal enhancer limiter	[0-3]	S H LIMIT	1		
Sub horizontal enhancer 0	[0-1]	S H F0	1		
Sub vertical enhancer gain	[0-3]	S V GAIN	2		
Sub vertical enhancer loopback	[0-3]	S V ORI	1		
Sub vertical enhancer coring	[0-3]	S V CORE	2		
				CS	FFFF

■ Line adjustment6 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
Brightness R	[0-63]	BRIGHT R	16		LINE6
Brightness G	[0-63]	BRIGHT G	16		
Brightness B	[0-63]	BRIGHT B	16		
γ correction ON/OFF		GAMMA	OFF		
RGB simultaneous γ1 inflection point	[0-63]	GAMMA 1	0		
RGB simultaneous γ2 inflection point	[0-31]	GAMMA 2	4		
RGB simultaneous γ3 inflection point	[0-31]	GAMMA 3	1		
RGB simultaneous γ gradient A	[0-7]	GAMMASLP A	4		
RGB simultaneous γ gradient B	[0-7]	GAMMASLP B	1		
RGB simultaneous γ gradient C	[0-7]	GAMMASLP C	1	CS	FFFF

※■ Note 1: Be aware that [BRIGHT R, G, B] have different indicated values/EEPROM written values and double window IC(TC90A96FG-P) register set values.
(As the double window IC register values and the screen output are not related linearly, software is used for conversion.)

[BRIGHT R,G,B]

Indicated value (=Adjusted value) (DEC)	EEPROM written value (DEC)	Double screen IC register value (BIN)	
63	63	011111	(MAX)
62	62	011110	
• •	• •	• •	
33	33	000001	
32	32	000000	(TYP)
31	31	111111	
• •	• •	• •	
1	1	100001	
0	0	100000	(MIN)

■ Line adjustment 7 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE7
Main PLL 0	[0-255]	MAIN PLL 0	158		
Main PLL 1	[0-255]	MAIN PLL 1	13		
Main PLL 2	[0-255]	MAIN PLL 2	204		
Main PLL 3	[0-255]	MAIN PLL 3	4		
				CS	FFFF

■ Line adjustment 8 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
					LINE8
Sub PLL 0 for TV	[0-255]	SUB PLL 0 TV	140		
Sub PLL 1 for TV	[0-255]	SUB PLL 1 TV	136		
Sub PLL 0 for others	[0-255]	SUB PLL 0	140		
Sub PLL 1 for others	[0-255]	SUB PLL 1	141		
Sub PLL 2 for TV	[0-255]	SUB PLL 2 TV	100		
Sub PLL 3 for TV	[0-255]	SUB PLL 3 TV	68		
PLL 2 for others	[0-255]	SUB PLL 2	152		
PLL 3 for others	[0-255]	SUB PLL 3	135		
				CS	FFFF

■ Line adjustment 9 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
SA 46 UPPER	[0-255]	SA 46H UPPER	0		LINE9
SA 46 LOWER	[0-255]	SA 46H LOWER	0		
SA 47 UPPER	[0-255]	SA 47H UPPER	0		
SA 47 LOWER	[0-255]	SA 47H LOWER	0		
SA 48 UPPER	[0-255]	SA 48H UPPER	0		
SA 48 LOWER	[0-255]	SA 48H LOWER	0		
SA 49 UPPER	[0-255]	SA 49H UPPER	0		
SA 49 LOWER	[0-255]	SA 49H LOWER	0		
SA 4A UPPER	[0-255]	SA 4AH UPPER	0		
SA 4A LOWER	[0-255]	SA 4AH LOWER	0	CS	FFFF

■ Line adjustment 10 mode

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
SA 4B UPPER	[0-255]	SA 4BH UPPER	0		LINE10
SA 4B LOWER	[0-255]	SA 4BH LOWER	0		
SA 4C UPPER	[0-255]	SA 4CH UPPER	0		
SA 4C LOWER	[0-255]	SA 4CH LOWER	0		
SA 4D UPPER	[0-255]	SA 4DH UPPER	0		
SA 4D LOWER	[0-255]	SA 4DH LOWER	0		
SA 4E UPPER	[0-255]	SA 4EH UPPER	0		
SA 4E LOWER	[0-255]	SA 4EH LOWER	0		
SA 4F UPPER	[0-255]	SA 4FH UPPER	0		
SA 4F LOWER	[0-255]	SA 4FH LOWER	0	CS	FFFF

■ Parameter setting mode for DIMMER

Settings	Adjustment range	Item display	Adjusted value Written value (HEX)		
Backlight output max value	[0- 255]	BL MAX	C4		DIMMER
Backlight output min value	[0- 255]	BL MIN	59		
Dimmer threshold value (High)	[0- 255]	REF H	C0		
Dimmer threshold value (Low)	[0- 255]	REF L	60		
Outside light point (High)	[0- 255]	LUM H	E2		
Outside light point (Middle)	[0- 255]	LUM M	87		
Outside light point (Low)	[0- 255]	LUM L	52		
Backlight point (High)	[0- 255]	BL H	C4		
Backlight point (Middle)	[0- 255]	BL M	C4		
Backlight point (Low)	[0- 255]	BL L	68	CS	FFFF

※■ Note 1: Data on the dimmer points (coordinates) is memorized in EEPROM, however, it is not used in CS calculation because it is user-configurable.

● Adjustment mode for services

[Operation specification]

- Turn ACC on with [SRV/SRVA] terminal Low, and [Adjustment mode for services] will start.
- In the order of ACC OFF →ON (BUP OFF →ON), cancel [Adjustment mode for services].
- Use [↑] [→] keys for adjustment.

※ It is possible to move to the adjustment mode from 6 6 Monitor Test Mode or 6. 7 Test Disc Monitor adjustment.
※ Set values are read out after they are written in EEPROM and the read-out values shall be displayed.
Writing and reading shall be done in 16 bit unit.

Examples of actual OSD display are shown inside the heavy line frame.
Numeric values in the common inverse output center value are changed by adjustment.
(The example inside the heavy line frame shows MAX value.)
The FACTORY numerical value is the default for using in the line for adjustment.
(Rewritable in EEPROM setting mode)

※This default value is not a set value for each product, however setting to this value will work out OK in most cases.

■ Adjustment mode for services

Settings	Adjustment range	Item display	Adjusted value Written value (DEC)		
Common inverse output center value	[0- 255]	COM DC	92		
Common inverse output center set value	[0- 255]	[FACTORY	92	]	
(Factory value)					

※■ Note 1: CS display is not performed

6.6 TEST MODE

06 Overseas Navigation Test Mode Ver 1.00

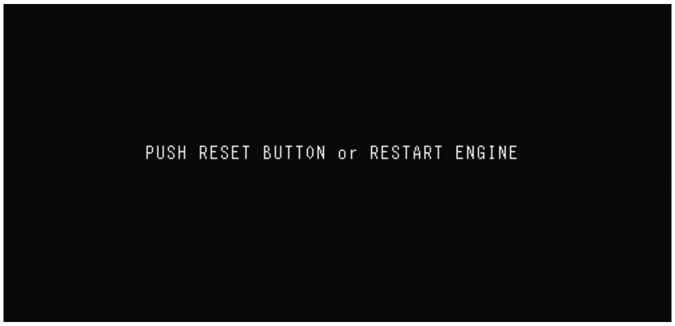
1. Test mode startup procedure

1. Press the RESET and EJECT buttons simultaneously while +Battery, ACC ON.
2. Release only the RESET button.
3. Release the EJECT button when the password input screen is displayed.
4. Input the password.
5. Test mode menu will be displayed when the password matches.

<<Password for Service Division>>

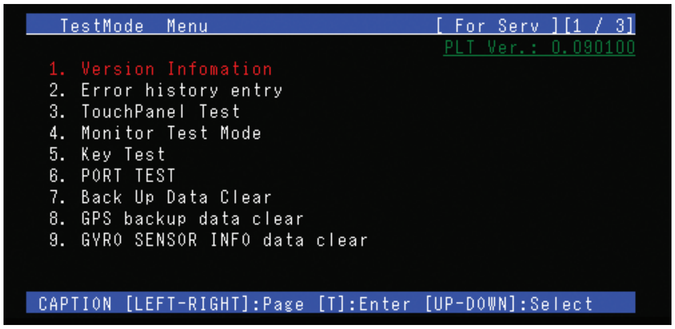
Input the password from the keys in the order of [P.LIST▲]→[P.LIST ▲]→[P.LIST ▼]→[P.LIST ▼]→[TRFC [TA/NEWS)]

Password input screen



```
PUSH RESET BUTTON or RESTART ENGINE
```

When the password is OK



```
  TestMode  Menu                         [ For Serv ][1 / 3]
                                         PLT Ver.: 0.090100
   1. Version Infomation
   2. Error history entry
   3. TouchPanel Test
   4. Monitor Test Mode
   5. Key Test
   6. PORT TEST
   7. Back Up Data Clear
   8. GPS backup data clear
   9. GYRO SENSOR INFO data clear


 CAPTION [LEFT-RIGHT]:Page [T]:Enter [UP-DOWN]:Select
```

When the password is NG

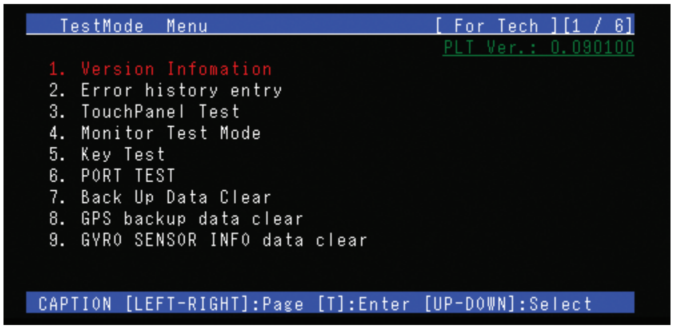
The password input screen remains.

2. Test mode menu selection procedure

Select an optional menu using the main unit keys [P.LIST▲] and [P.LIST▼] and execute it by the [TRFC(TA/NEWS)] key.
Move through the page using the main unit key [TRK].

3. Test mode menu

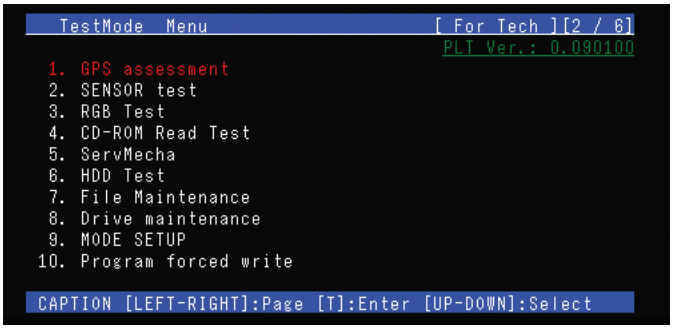
[PAGE 1]



```
 TestMode  Menu                        [ For Tech ][1 / 6]
                                       PLT Ver.: 0.090100
   1. Version Infomation
   2. Error history entry
   3. TouchPanel Test
   4. Monitor Test Mode
   5. Key Test
   6. PORT TEST
   7. Back Up Data Clear
   8. GPS backup data clear
   9. GYRO SENSOR INFO data clear

 CAPTION [LEFT-RIGHT]:Page [T]:Enter [UP-DOWN]:Select
```

No	Test item	Description of test
1	Version Infomation	Display of various data ◆ Navigation platform, navigation platform recovery image, boot loader, CPU core, application program and GPS program versions ◆ Navigation destination data, TV model information, information for GPS destination, hard disk version data, volume data ◆ Machine microcontroller (core application), monitor microcontroller (version, ROM COLLE), system microcontroller (version, ROM COLLE) data
2	Error history entry	Display of error history for driver and system software contained in RAM/FLASH, display of forced reset error history, serial output switching for copying, deleting and debugging
3	TouchPanel Test	Test on touch panel coordinates
4	Monitor Test Mode	Adjustment of regulation and calibration
5	Key Test	Test on main unit keys
6	PORT TEST	Display of CF card door sensor, illumination, parking, reversing and vehicle speed pulse conditions
7	Back Up Data Clear	Initialization of the backup variable used in device driver/class library and system restart at completion
8	GPS backup data clear	Initialization of backup variables used in GPS
9	GYRO SENSOR INFO data clear	Deletion of learned values in gyro sensor

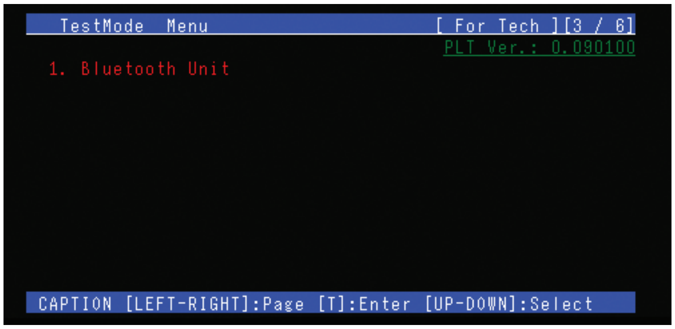
[PAGE 2]



```
 TestMode  Menu                        [ For Tech ][2 / 6]
                                       PLT Ver.: 0.090100
   1. GPS assessment
   2. SENSOR test
   3. RGB Test
   4. CD-ROM Read Test
   5. ServMecha
   6. HDD Test
   7. File Maintenance
   8. Drive maintenance
   9. MODE SETUP
  10. Program forced write

 CAPTION [LEFT-RIGHT]:Page [T]:Enter [UP-DOWN]:Select
```

No	Test item	Description of test
1	GPS assessment	Display of GPS conditions
2	SENSOR test	Display of G sensor, gyro value, power supply voltage value, temperature and attachment conditions
3	RGB Test	Display in order of red (FULL) →green (FULL) →blue (FULL) →white (FULL) →color pattern
4	CD-ROM Read Test	CD-ROM decoder testing
5	ServMecha	Various tests on the machine
6	HDD Test	HDD data display, read and write test
7	File Maintenance	File Maintenance
8	Drive maintenance	Drive data display, scan disk (volume verification)
9	MODE SETUP	HDD setup
10	Profram forced write	Forced rewriting of PLT (platform), APL (application) software, GPS (GPS) program

[PAGE 3]

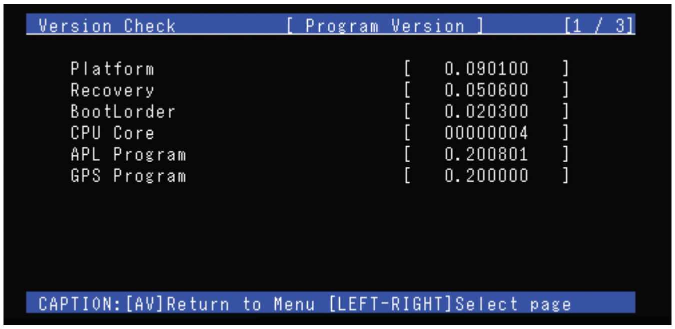


```
  TestMode  Menu                        [ For Tech ][3 / 6]
                                        PLT Ver.: 0.090100
   1. Bluetooth Unit

 CAPTION [LEFT-RIGHT]:Page [T]:Enter [UP-DOWN]:Select
```

No	Test item	Description of test
1	Bluetooth Unit	Bluetooth unit test and firmware updating are implemented.

Specifications of 06 Overseas Navigation Test Mode Version Display

■ Version information screen [PAGE 1]



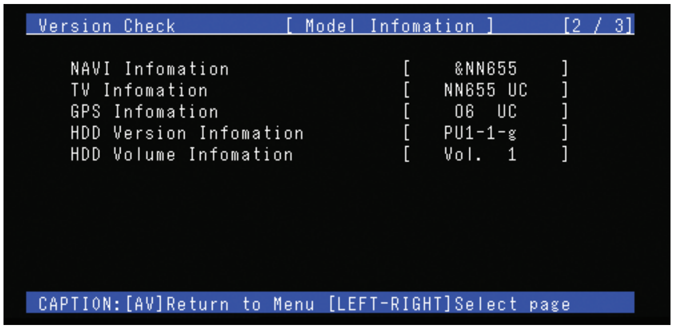
```
 Version Check          [ Program Version ]        [1 / 3]

     Platform                        [   0.090100   ]
     Recovery                        [   0.050600   ]
     BootLorder                      [   0.020300   ]
     CPU Core                        [   00000004   ]
     APL Program                     [   0.200801   ]
     GPS Program                     [   0.200000   ]

 CAPTION:[AV]Return to Menu [LEFT-RIGHT]Select page
```

<<Key operation>>
[TRK>] ¥¥▯¥Proceeds to the next page.
[AV]¥¥¥¥¥¥¥¥Escapes from the version information display screen and returns to the menu screen.

Description of items

No	Item	Item description	Information displayed	File name
1	Platform	Displays the version for the system software OS block (FLASH).	[*. ******]→Version for system software OS block (FLASH) [UNKNOWN]→Version acquisition failure or no program	EU 060PLT.EXE
2	Recovery	Displays the version of the recovery software in system software OS block (FLASH).	[*. ******]→Version of the recovery software in system software OS block (FLASH) [UNKNOWN]→Version acquisition failure or no program	EU 060PLT.EXE
3	BootLorder	Displays the version of the boot loader block (FLASH).	[*. ******]→Version of the boot loader block [NG]→Version acquisition failure or no program	
4	CPU Core	Displays the CPU version	[********]→Version of the CPU core block [NG]→Version acquisition failure	
5	APL Program	Displays the version of application program (HDD)	[*. ******]→Version of the application program [UNKNOWN]→Version acquisition failure	EU 060APL.EXE
6	GPS Program	Displays the version of GPS program (GIDRA).	[*. ******]→Version of the GPS program [UNKNOWN]→Version acquisition failure	EU 060GPS.EXE

■ Version information screen [PAGE 2]



```
 Version Check              [ Model Infomation ]        [2 / 3]

     NAVI Infomation                       [    &NN655    ]
     TV Infomation                         [   NN655 UC   ]
     GPS Infomation                        [    06  UC    ]
     HDD Version Infomation                [   PU1-1-g    ]
     HDD Volume Infomation                 [   Vol.  1    ]

 CAPTION:[AV]Return to Menu [LEFT-RIGHT]Select page
```

<<Key operation>>

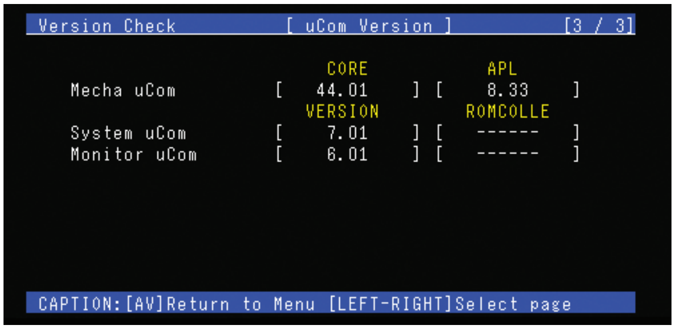
[TRK>] ···· Proceeds to the next page.

[AV]········ Escapes from the version information display screen and returns to the menu screen.

Description of items

No	Item	Item description	Information displayed
1	NAVI Information	Displays the navigator destination information.	[&NN ***]→Navigation model information [UNKNOWN]→Information acquisition failure
2	TV Information	Displays the TV model information.	[NN 655 UC]→NN 655 [NN 656 EW]→NN 656 [UNKNOWN]→Information acquisition failure
3	GPS Information	Displays the GPS destination information.	[06 UC]→NN 655GPS unit is connected. [06 EW]→NN 656GPS unit is connected. [UNKNOWN]→Information acquisition failure
4	HDD Version Information	Displays the hard disk version	[***-*-*]→Hard disk version [UNKNOWN]→Information acquisition failure
5	HDD Volume Information	Displays the volume information.	[Vol.*]→Volume information [Vol 0]→Information acquisition failure

■ Version information screen [PAGE 3]



```
Version Check              [ uCom Version ]            [3 / 3]

                              CORE            APL
    Mecha uCom          [    44.01     ] [    8.33     ]
                             VERSION        ROMCOLLE
    System uCom         [     7.01     ] [   ------    ]
    Monitor uCom        [     6.01     ] [   ------    ]

CAPTION:[AV]Return to Menu [LEFT-RIGHT]Select page
```

<<Key operation>>

[TRK>] ···· Proceeds to the next page

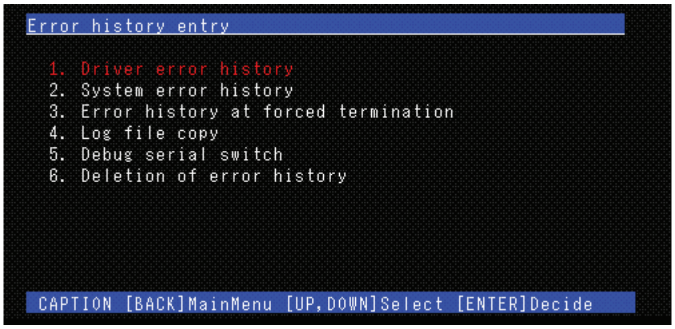
[AV]······· Escapes the version information display screen and returns to the menu screen.

Description of items

No	Item	Description of item	Information display
1	Mecha uCom Core	Displays the core version for machine microcontroller.	[**. **]→Core version for machine microcontroller [UNKNOWN]→Communication with machine microcontroller is not established.
	Mecha uCom APL	Displays the application version for machine microcontroller.	[**. **]→Application version for machine microcontroller [UNKNOWN]→Communication with machine microcontroller is not established.
2	System uCom VERSION	Displays the version for system microcontroller.	[**. **]→Version of the system microcontroller [UNKNOWN]→Communication with the system microcontroller is not established.
	System uCom ROMCOLLE	Displays the ROM COLLE version for system microcontroller.	[**. **]→ROM COLLE version for system microcontroller [- - - - - -] →No ROM COLLE version
3	Monitor uCom VERSION	Displays the version of the monitor microcontroller.	[**. **]→Version of the monitor microcontroller [UNKNOWN]→Communication with system microcontroller is not established.
	Monitor uCom ROMCOLLE	Displays the ROM COLLE version for monitor microcontroller.	[**. **]→ROM COLLE version for monitor microcontroller [- - - - - -] →No ROM COLLE version

Specifications of 06 Overseas Navigation Test Mode Error History Entry Screen

● Error history menu screen

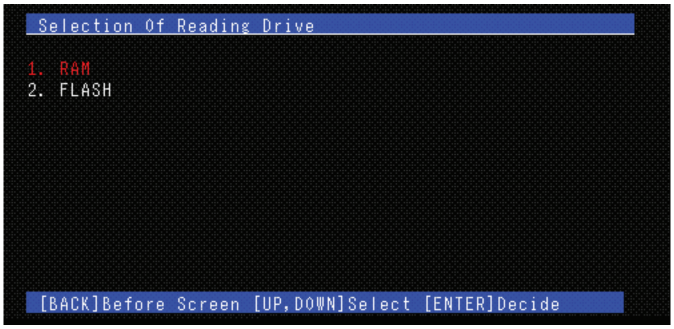


```
Error history entry

  1. Driver error history
  2. System error history
  3. Error history at forced termination
  4. Log file copy
  5. Debug serial switch
  6. Deletion of error history

CAPTION [BACK]MainMenu [UP,DOWN]Select [ENTER]Decide
```

Select error history, history deletion, file copy or debug serial switch.
Select driver error/system error to move to reading drive selection screen.
Select error history at forced reset to move to forced reset error log display screen.
Select log file copy to move to media selection screen.
Select debug serial switch to move to debug serial switch screen.
Select deletion of error history to move to deletion of error history screen.

1. Reading drive selection screen (driver error, system error)
2. Forced termination error log display screen (forced termination error history)
3. Media selection screen (log file copy)
4. Debug serial switch screen (debug serial switch)
5. Deletion of error history selection screen (deletion of error history)

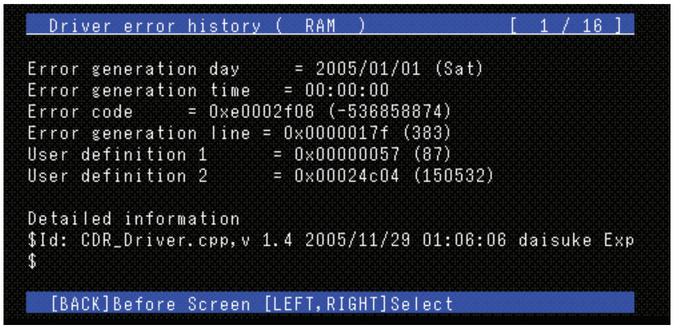
● Drive selection screen



```
Selection Of Reading Drive

1. RAM
2. FLASH

[BACK]Before Screen [UP,DOWN]Select [ENTER]Decide
```

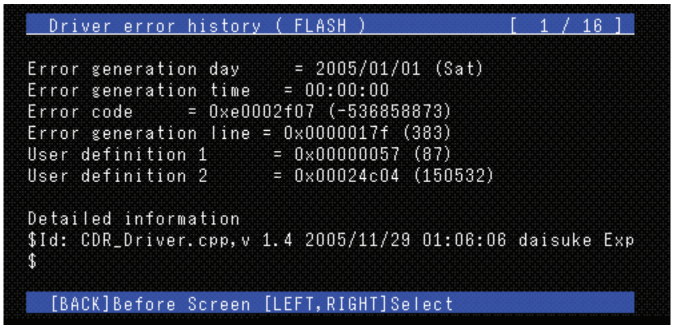
1. Driver error
2. System error

● RAM drive driver error history screen



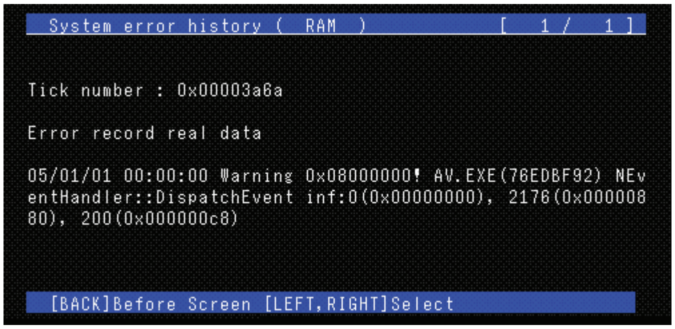
```
 Driver error history (  RAM  )               [  1 / 16 ]

Error generation day      = 2005/01/01 (Sat)
Error generation time    = 00:00:00
Error code      = 0xe0002f06 (-536858874)
Error generation line = 0x0000017f (383)
User definition 1       = 0x00000057 (87)
User definition 2       = 0x00024c04 (150532)

Detailed information
$Id: CDR_Driver.cpp,v 1.4 2005/11/29 01:06:06 daisuke Exp
$

 [BACK]Before Screen [LEFT,RIGHT]Select
```

● FLASH drive driver error history screen



```
 Driver error history ( FLASH )               [  1 / 16 ]

Error generation day      = 2005/01/01 (Sat)
Error generation time    = 00:00:00
Error code      = 0xe0002f07 (-536858873)
Error generation line = 0x0000017f (383)
User definition 1       = 0x00000057 (87)
User definition 2       = 0x00024c04 (150532)

Detailed information
$Id: CDR_Driver.cpp,v 1.4 2005/11/29 01:06:06 daisuke Exp
$

 [BACK]Before Screen [LEFT,RIGHT]Select
```

● RAM drive system error history screen

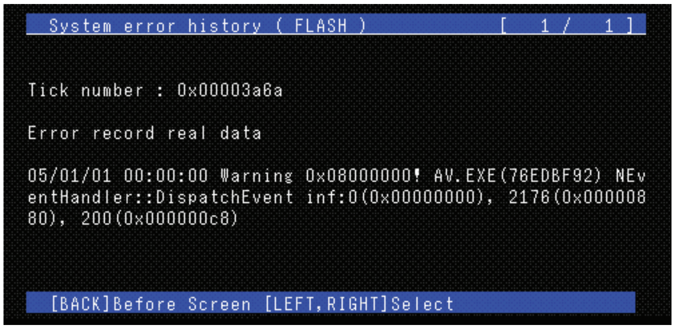


```
 System error history (  RAM  )              [   1 /   1 ]


Tick number : 0x00003a6a

Error record real data

05/01/01 00:00:00 Warning 0x08000000! AV.EXE(76EDBF92) NEv
entHandler::DispatchEvent inf:0(0x00000000), 2176(0x000008
80), 200(0x000000c8)



 [BACK]Before Screen [LEFT,RIGHT]Select
```

[Description]

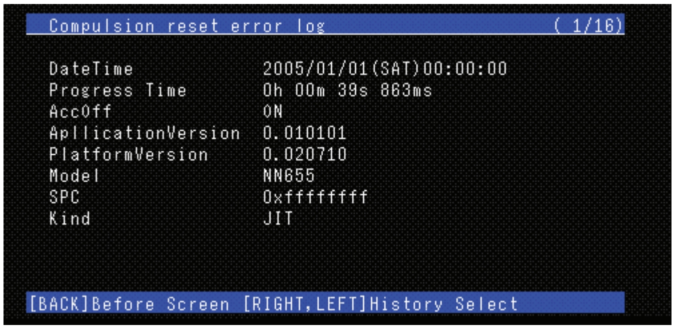
◆ Tick number : Counter value for beginning count from OS startup. 1 count is equivalent to 10msec.

● FLASH drive system error history screen



```
 System error history ( FLASH )              [   1 /   1 ]


Tick number : 0x00003a6a

Error record real data

05/01/01 00:00:00 Warning 0x08000000! AV.EXE(76EDBF92) NEv
entHandler::DispatchEvent inf:0(0x00000000), 2176(0x000008
80), 200(0x000000c8)



 [BACK]Before Screen [LEFT,RIGHT]Select
```

● Error history at forced reset



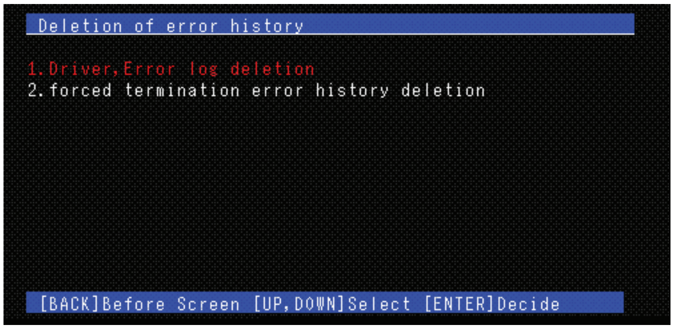
```
 Compulsion reset error log                        ( 1/16)

  DateTime            2005/01/01(SAT)00:00:00
  Progress Time       0h 00m 39s 863ms
  AccOff              ON
  AplicationVersion   0.010101
  PlatformVersion     0.020710
  Model               NN655
  SPC                 0xffffffff
  Kind                JIT



[BACK]Before Screen [RIGHT,LEFT]History Select
```

[Description]

◆ DataTime : Date and time of forced reset
◆ Progress Time : Time from forced reset to startup
◆ AccOff : When there is a forced reset during AccOff process→ON Other cases→OFF
◆ ApllicationVersion : Application version
◆ PlatformVersion : Platform version
◆ Model : Model name
◆ SPC : Retreat program counter : Command address in case of exceptions (for CPU watchdog only)
◆ Kind : Type of forced reset (JIT/CL/CPUWDT)

Press [Return] key to return to the menu.
[←→] to display history.

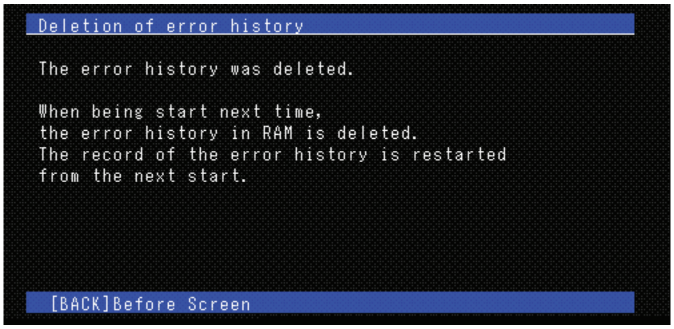
● Deletion of error history screen



```
Deletion of error history

1.Driver,Error log deletion
2.forced termination error history deletion

[BACK]Before Screen [UP,DOWN]Select [ENTER]Decide
```

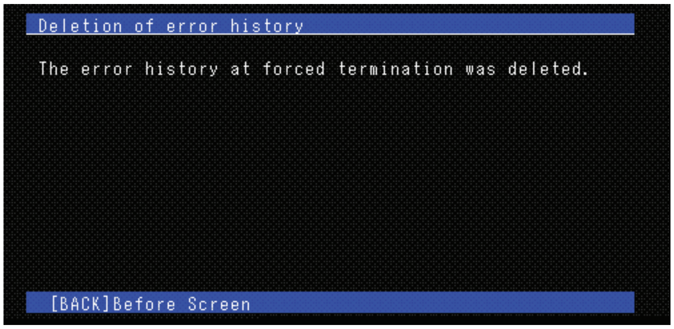
1. Deletion of driver, and error log
2. Deletion of forced reset error history

● Deletion of driver/error log screen



```
Deletion of error history

The error history was deleted.

When being start next time,
the error history in RAM is deleted.
The record of the error history is restarted
from the next start.

[BACK]Before Screen
```

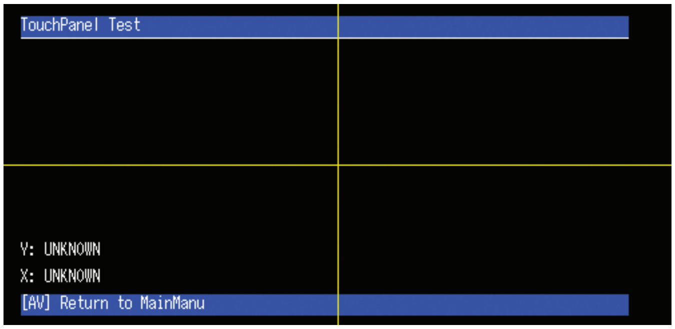
● Deletion of error history at forced reset screen



```
Deletion of error history

The error history at forced termination was deleted.

[BACK]Before Screen
```

Test Mode Touch Panel Test Operation Specifications

● Touch panel test


TouchPanel Test

Y: UNKNOWN

X: UNKNOWN

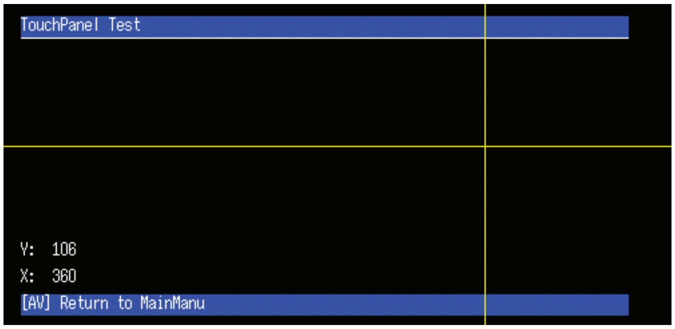
[AV] Return to MainManu

- Description of operation

[AV] (main unit) key : Returns to the test mode main menu.

Touch panel : The coordinates of the pressed point will be displayed by 2-axis horizontal and vertical lines.

- By pressing an optional point on screen, the coordinates of the pressed point are displayed by 2-axis horizontal and vertical lines. (In the initial condition after starting the test and before pressing the panel, the value display says "UNKNOWN" and the lines are at the "center.")


TouchPanel Test

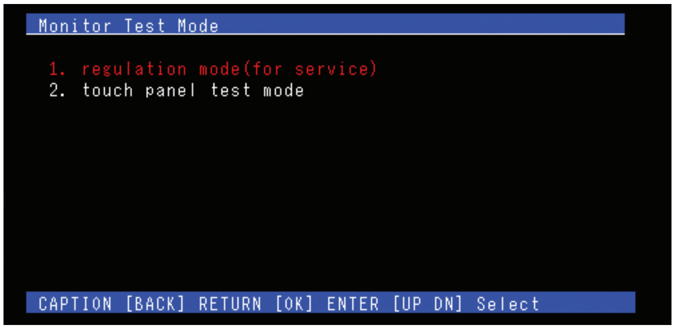
Y: 106

X: 360

[AV] Return to MainManu

Test Mode Monitor Test Mode Operation Specifications

● Monitor test mode menu


Monitor Test Mode

1. regulation mode(for service)
2. touch panel test mode

CAPTION [BACK] RETURN [OK] ENTER [UP DN] Select

1.regulation mode(for service)

– Adjustment mode for service: Adjustable monitor setting value can be changed.

2.touch panel test mode

– Touch panel test mode: Settings related to touch panel such as calibration can be provided.

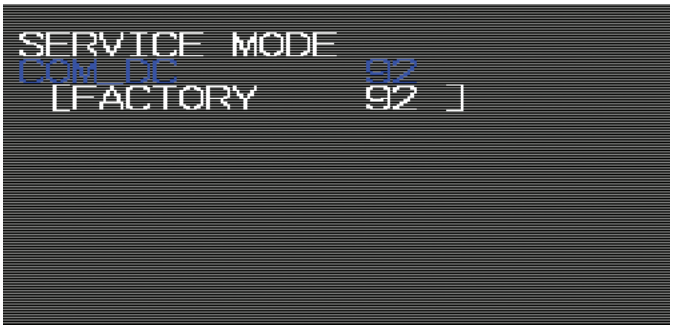
- Description of operation

[AV] (main unit) key : Returns to test mode main menu.

[TI] (main unit) key : Selects the item.

[P.LIST ↑↓] (main unit) key : Moves the cursor (selected line: red).

● Adjustment mode for service



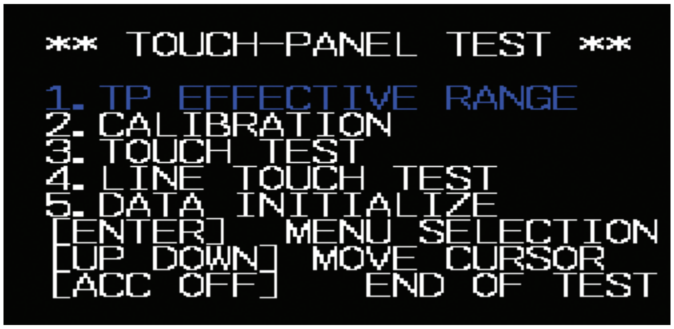
```
SERVICE MODE
COM DC           92
 [FACTORY        92 ]
```

COM DC
– Common inversion output center value: Line setting default value = 92

- Description of operation

[AV] (main unit) key : Returns to monitor test mode menu.
[TRK ←] (main unit) key : Moves DOWN the setting value.
[TRK →] (main unit) key : Moves UP the setting value.

● Touch panel test mode menu



```
 ** TOUCH-PANEL TEST **

 1. TP EFFECTIVE RANGE
 2. CALIBRATION
 3. TOUCH TEST
 4. LINE TOUCH TEST
 5. DATA INITIALIZE
 [ENTER]   MENU SELECTION
 [UP DOWN]  MOVE CURSOR
 [ACC OFF]    END OF TEST
```

1.TP EFFECTIVE RANGE
– Outermost rim test: Tests the outermost rim of the touch panel screen.

2.CALIBRATION
– Calibration: Calibration setting can be provided by pressing the cursor on screen successively.

3.TOUCH TEST
– Touch panel confirmation: Displays the status before and after pressing the touch panel.

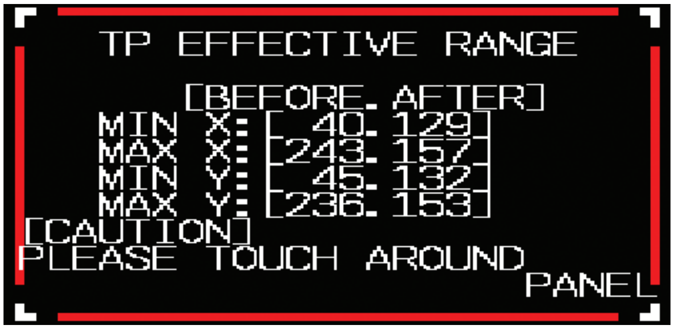
4.LINE TOUCH TEST
– Line touch panel test: OK/NG judgment for touch panel is made by pressing the cursor on screen.

5.DATA INITIALIZE
– Data initialization: Returns the outermost rim and calibration data to the initial values.

- Description of operation

[AV] (main unit) key : Returns to monitor test mode menu.
[Navigation] (main unit) key : Selects the item.
[P.LIST ↑↓] (main unit) key : Moves the cursor (selected line: blue).

● Outermost rim test



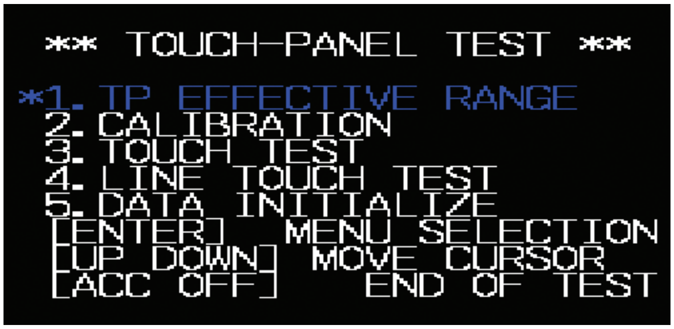
```
   TP  EFFECTIVE  RANGE

        [BEFORE. AFTER]
   MIN  X: [ 40. 129]
   MAX  X: [243. 157]
   MIN  Y: [ 45. 132]
   MAX  Y: [236. 153]
[CAUTION]
PLEASE  TOUCH  AROUND
                  PANEL
```

- Description of operation

[AV] (main unit) key : Returns to monitor test mode menu.
[Navigation] (main unit) key : Terminates setting.
Touch panel : Outermost rim is set up by touching the range than can be pressed (outer rim).

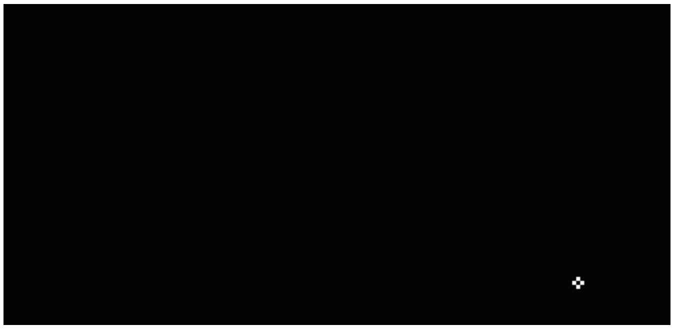
- "OK" is displayed for about 2 seconds when it is successful and "NG" when it fails, and the system returns to the touch panel test mode menu.

- When successful, "*" is displayed on the left of "1. TP EFFECTIVE RANGE" of the touch panel test mode menu.



```
 **  TOUCH-PANEL  TEST  **

*1. TP  EFFECTIVE  RANGE
 2. CALIBRATION
 3. TOUCH  TEST
 4. LINE  TOUCH  TEST
 5. DATA  INITIALIZE
  [ENTER]    MENU  SELECTION
  [UP  DOWN]  MOVE  CURSOR
  [ACC  OFF]      END  OF  TEST
```

● Calibration

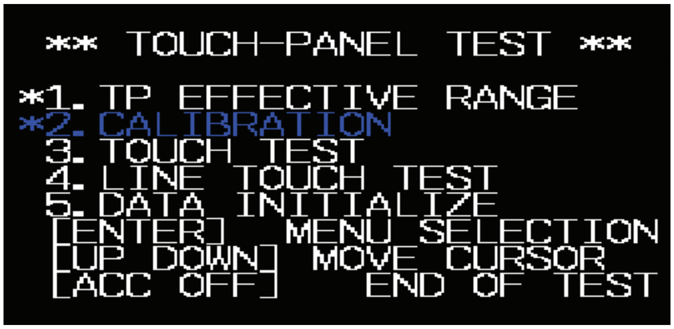


- Description of operation

[AV] (main unit) key : Returns to monitor test mode menu.
[Navigation] (main unit) key : Escapes from setting.
Touch panel : Calibration is set up by pressing the cursor on screen successively.

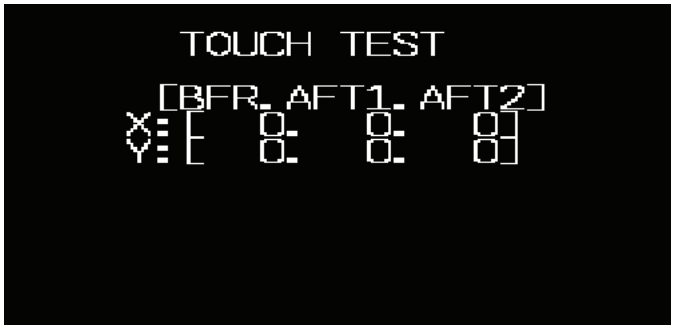
- "FINISHED" is displayed for about 2 seconds when touching at 17 points has been completed and "NG" when it is closed by pressing the [Navigation] key during calibration, and the system returns to the touch panel test mode menu.

- When successful, "*" is displayed on the left of "2. CALIBRATION" of the touch panel test mode menu.



```
 **  TOUCH-PANEL  TEST  **

*1. TP  EFFECTIVE  RANGE
*2. CALIBRATION
 3. TOUCH  TEST
 4. LINE  TOUCH  TEST
 5. DATA  INITIALIZE
  [ENTER]    MENU  SELECTION
  [UP  DOWN]  MOVE  CURSOR
  [ACC  OFF]      END  OF  TEST
```

● Touch panel confirmation



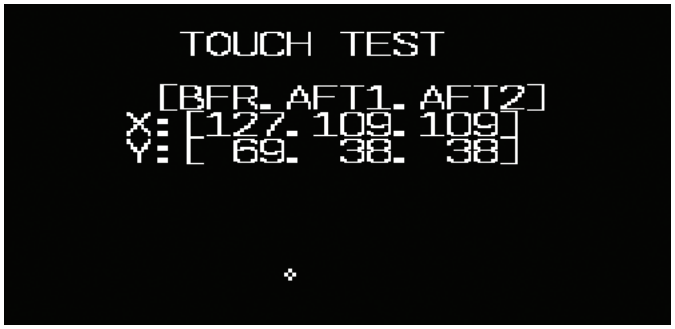
```
TOUCH TEST
 [BFR. AFT1. AFT2]
X:[   0.    0.    0]
Y:[   0.    0.    0]
```

・ Description of operation

[AV] (main unit) key : Returns to monitor test mode menu.
[Navigation] (main unit) key : Returns to touch panel test mode menu.
Touch panel : An optional point on screen is pressed.

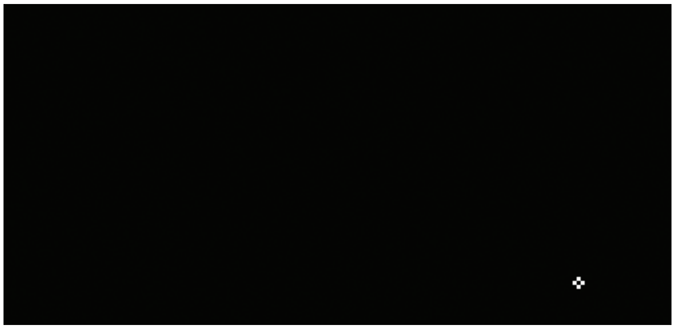
・ The coordinates for the pressed point are displayed as values and cursor.

[BFR] : The value of the A/D value from the touch panel.
These values are not indicated the X-Y coordinate
on the monior.
[AFT1] : After compensation by Factory setting.
[AFT2] : After compensation by User setting.



```
TOUCH TEST
 [BFR. AFT1. AFT2]
X:[127. 109. 109]
Y:[  69.   38.   38]
```

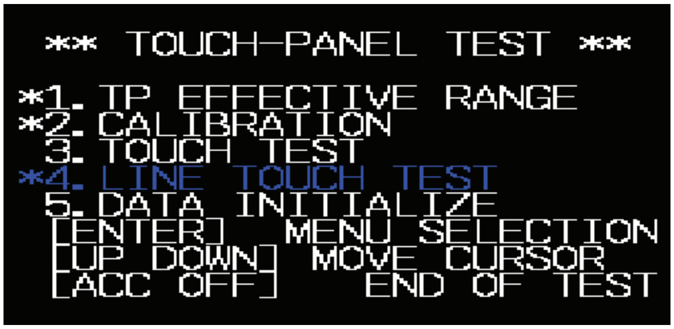
● Line touch panel test



・ Description of operation

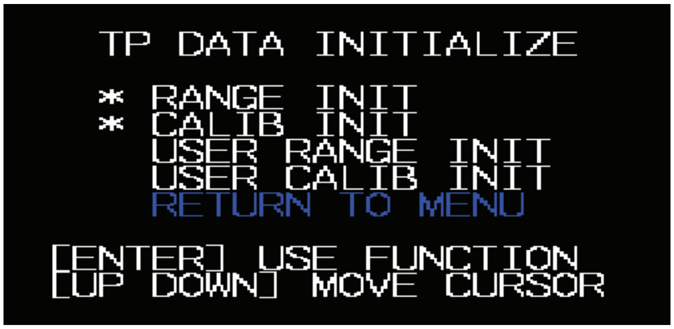
[AV] (main unit) key : Returns to monitor test mode menu.
[Navigation] (main unit) key : Escapes from the test.
Touch panel : Test is executed by pressing the cursor on screen successively.

- "Cursor turns red" if the displayed cursor position cannot be pressed, and it moves to the "next cursor" when it is pressed properly.
- "OK" is displayed for about 2 seconds when touching is completed at 17 points and "NG" when it is closed by pressing the [Navigation] key during test, and it returns to the touch panel test mode menu.
- When successful, "⁎" is displayed on the left of "4. LINE TOUCH TEST" of the touch panel test mode menu.



```
 ** TOUCH-PANEL TEST **

*1. TP EFFECTIVE RANGE
*2. CALIBRATION
 3. TOUCH TEST
*4. LINE TOUCH TEST
 5. DATA INITIALIZE
  [ENTER]  MENU SELECTION
  [UP DOWN] MOVE CURSOR
  [ACC OFF]   END OF TEST
```

● Data initialization



```
    TP DATA INITIALIZE

    * RANGE INIT
    * CALIB INIT
      USER RANGE INIT
      USER CALIB INIT
      RETURN TO MENU

  [ENTER] USE FUNCTION
  [UP DOWN] MOVE CURSOR
```

RANGE INIT
– Initialization of outermost rim setting: Initializes the outermost rim setting obtained in monitor test mode.

CALIB INIT
– Initialization of calibration correction: Initializes the calibration correction obtained in monitor test mode.

USER RANGE INIT
– Initialization of user setting outermost rim: Initializes the outermost rim set up by the user.

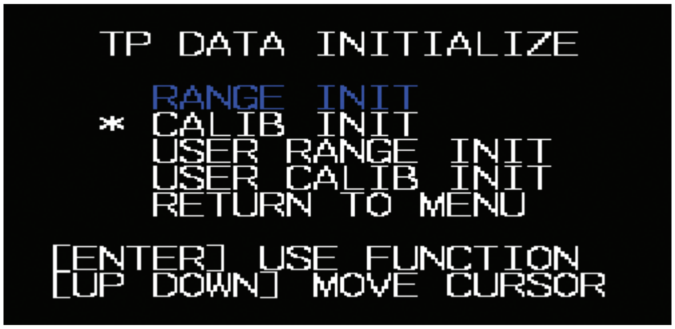
USER CALIB INIT
– Initialization of user calibration correction: Initializes the calibration correction set up by the user.

RETURN TO MENU
– Return to menu: The system returns to the touch panel test mode menu.

- Description of operation

[AV] (main unit) key: Returns to monitor test mode menu.
[Navigation] (main unit) key: Executes the item.
[P.LIST ↑↓] (main unit) key: Moves the cursor (selected line: blue).

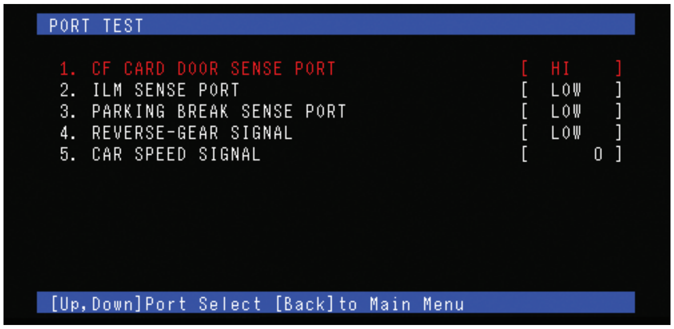
- If "*" is shown on the right of an item, the item has already been set up or corrected. Match the cursor there and execute initialization to eliminate "*" (ex.: initialization of outermost rim).



```
      TP DATA INITIALIZE

         RANGE INIT
       * CALIB INIT
         USER RANGE INIT
         USER CALIB INIT
         RETURN TO MENU

   [ENTER] USE FUNCTION
   [UP DOWN] MOVE CURSOR
```

Test mode port test specifications

● Port test screen

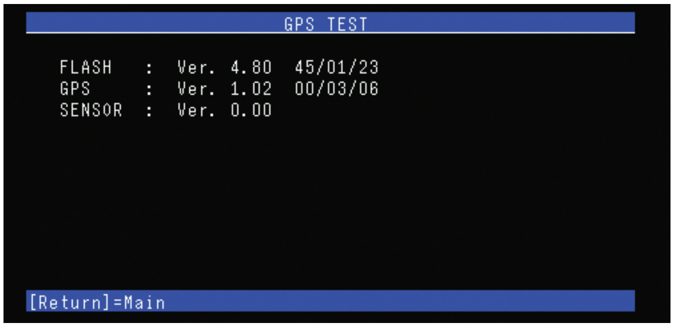


```
 PORT TEST

  1. CF CARD DOOR SENSE PORT              [  HI    ]
  2. ILM SENSE PORT                       [  LOW   ]
  3. PARKING BREAK SENSE PORT             [  LOW   ]
  4. REVERSE-GEAR SIGNAL                  [  LOW   ]
  5. CAR SPEED SIGNAL                     [      0 ]

 [Up,Down]Port Select [Back]to Main Menu
```

The status of each port is displayed as Hi / Low. The car speed pulse indicates the pulse number within the time unit.

Test Mode GPS Evaluation System Startup Screen Specifications

● Execution screen

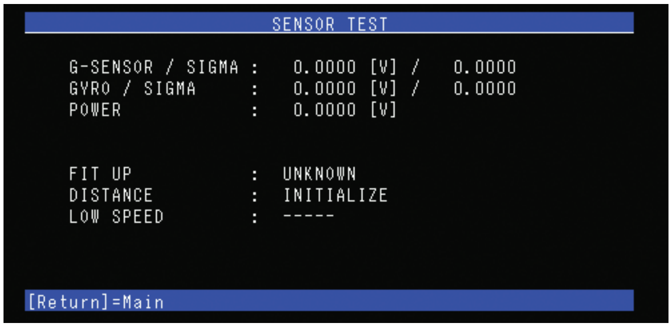


```
                  GPS TEST

  FLASH   :  Ver. 4.80  45/01/23
  GPS     :  Ver. 1.02  00/03/06
  SENSOR  :  Ver. 0.00

[Return]=Main
```

FLASH	Displays the version of DRAGON FLASH ROM.
GPS	Displays the version of GPS.
SENSOR	Displays the version of the sensor.

Specification of sensor test screen

● Test screen



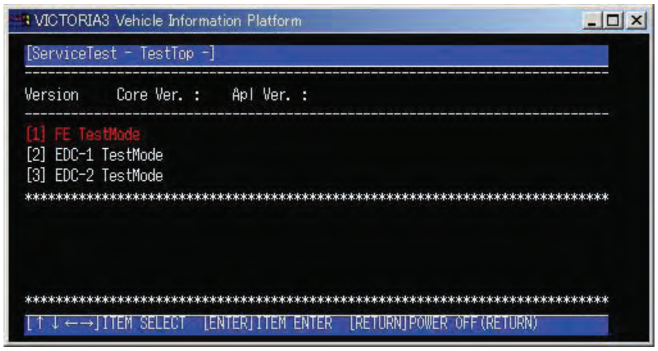
```
                    SENSOR TEST

   G-SENSOR / SIGMA :   0.0000 [V] /   0.0000
   GYRO / SIGMA     :   0.0000 [V] /   0.0000
   POWER            :   0.0000 [V]


   FIT UP           :  UNKNOWN
   DISTANCE         :  INITIALIZE
   LOW SPEED        :  -----


[Return]=Main
```

<table>
<tr><td>G-SENSOR</td><td>Display of G sensor voltage value</td></tr>
<tr><td>GYRO</td><td>Display of GYRO voltage value</td></tr>
<tr><td>POWER</td><td>Display of power supply voltage value</td></tr>
<tr><td>FIT UP</td><td>Display of attachment status
<table>
<tr><th>Display</th><th>Status</th></tr>
<tr><td>・NG</td><td>Attachment position NG</td></tr>
<tr><td>・OK</td><td>Attachment position OK (third best)</td></tr>
<tr><td>・OK(Better)</td><td>Attachment position OK (second best)</td></tr>
<tr><td>・OK(Best)</td><td>Attachment position OK (best)</td></tr>
</table></td></tr>
<tr><td>DISTANCE</td><td>Display of distance calculation status
<table>
<tr><th>Display</th><th>Status</th></tr>
<tr><td>・INITIALIZE</td><td>Sensor in initial learning</td></tr>
<tr><td>・GPS</td><td>GPS distance (pulse unconnected with a model without G sensor)</td></tr>
<tr><td>・G-SENSOR</td><td>G sensor distance (simple hybrid)</td></tr>
<tr><td>・ND-PG1</td><td>ND-PG1 distance</td></tr>
<tr><td>・SPEED PULSE</td><td>Vehicle speed pulse distance</td></tr>
</table></td></tr>
<tr><td>LOW SPEED</td><td>Displays the minimum output speed for low-speed vehicle (depends on the DISTANCE status).
<table>
<tr><th>DISTANCE status</th><th>SPEED PULSE status</th><th>Display</th></tr>
<tr><td>SPEED PULSE</td><td>Learning low vehicle speed pulse</td><td>CHECK</td></tr>
<tr><td></td><td>Low vehicle speed pulse OK</td><td>OK</td></tr>
<tr><td></td><td>Low vehicle speed pulse NG</td><td>NG xx [km/h]</td></tr>
<tr><td>OTHERS</td><td></td><td>– – – – –</td></tr>
</table></td></tr>
</table>

Test Mode Operation Specification Document for Mecha Service

1. About the test for Mecha service

[Mecha ServiceTest - TestTop -] screen



```
[ServiceTest - TestTop -]
--------------------------------------------------------------------------------
Version     Core Ver. :    Apl Ver. :
--------------------------------------------------------------------------------
[1] FE TestMode
[2] EDC-1 TestMode
[3] EDC-2 TestMode
********************************************************************************



********************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

Mecha Version: Version of the macha used

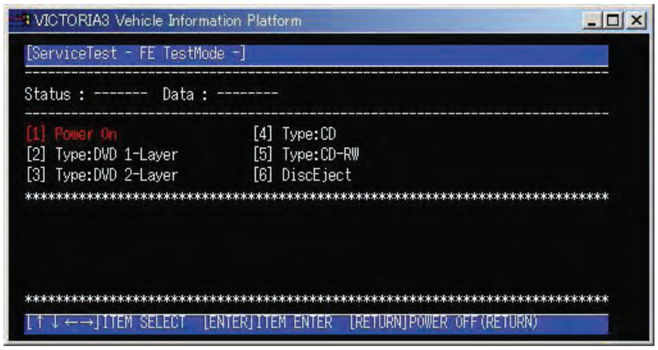
[1] FE TestMode ¥¥¥¥¥¥¥¥FE test mode startup
[2] EDC-1 TestMode ¥¥¥EDC-1 mode (DVD only): EDC test is executed successively.
[3] EDC- 2 TestMode ¥¥¥EDC- 2 mode (DVD only): EDC test is executed by the unit of blocks.

※By pressing [Return] button on this screen, the system escapes from Mecha service test mode. Though it may take some time in this case, do not press any key until the screen changes.

2. About FE test

※If an error is displayed in Data, please turn the POWER OFF or restart the test mode.

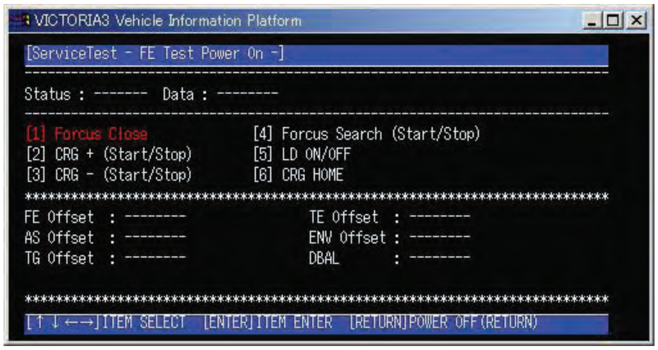
[Mecha ServiceTest - FE TestMode -] screen



```
[ServiceTest - FE TestMode -]
--------------------------------------------------------------------------------
Status : -------  Data : --------
--------------------------------------------------------------------------------
[1] Power On                 [4] Type:CD
[2] Type:DVD 1-Layer         [5] Type:CD-RW
[3] Type:DVD 2-Layer         [6] DiscEject
********************************************************************************



********************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

[1] Power On ¥¥¥¥¥¥¥¥¥¥¥¥¥Execution of FE test (Power on after choosing inserted disc type.)
[2] Type:DVD 1-Layer ▯¥DVD 1-layer
[3] Type:DVD 2-Layer ▯¥DVD 2-layer
[4] Type:CD ¥¥¥¥¥¥¥¥¥¥¥¥¥¥¥CD¥
[5] Type:CD-RW ¥¥¥¥¥¥¥¥¥CD-RW
[6] DiscEject ¥¥¥¥¥¥¥¥¥¥¥¥¥¥Disc ejection

[Mecha ServiceTest - FE Test Power On -] screen

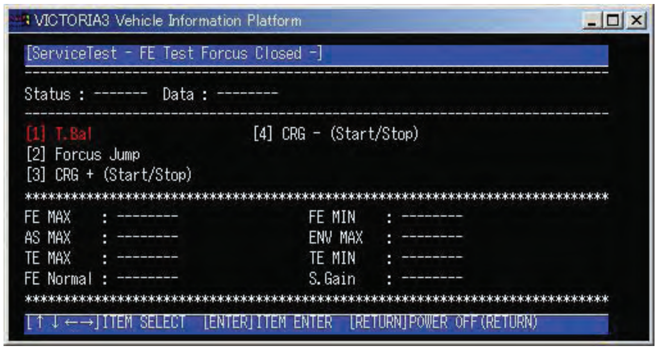


```
[ServiceTest - FE Test Power On -]
--------------------------------------------------------------------------
Status : -------  Data : --------
--------------------------------------------------------------------------
[1] Forcus Close            [4] Forcus Search (Start/Stop)
[2] CRG + (Start/Stop)      [5] LD ON/OFF
[3] CRG - (Start/Stop)      [6] CRG HOME
**************************************************************************
FE Offset  : --------             TE Offset  : --------
AS Offset  : --------             ENV Offset : --------
TG Offset  : --------             DBAL       : --------

**************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

[1] Forcus Close ···················Closes Focus.
[2] CRG ＋(Start/Stop)··········· Moves the carriage to the rim or stops the carriage.
[3] CRG －(Start/Stop)··········· Moves the carriage to the center or stops the carriage.
[4] Forcus Search(Start/Stop) ·· Implements or stops focus search.
※ To close focus after focus search, turn the POWER OFF once and then turn the POWER ON again.
[5] LD-ON/OFF ····················Implements LD-ON/OFF.
※ The system will turn LD-OFF automatically if no there is no operation for 10 seconds after LD-ON. If LD-ON is not executed within 10 seconds even during focus search, LD-OFF will be executed in 9 seconds even if focus search is executed after LD-ON.
[6] CRG HOME ····················Returns the carriage to home position.

FE Offset : FE offset coefficient
AS Offset : AS offset coefficient
TG Offset : TG offset coefficient
TE Offset : TE offset coefficient
ENV Offset : ENV offset coefficient
DBAL : DBAL coefficient

[Mecha ServiceTest - FE Test Focus Closed -] screen

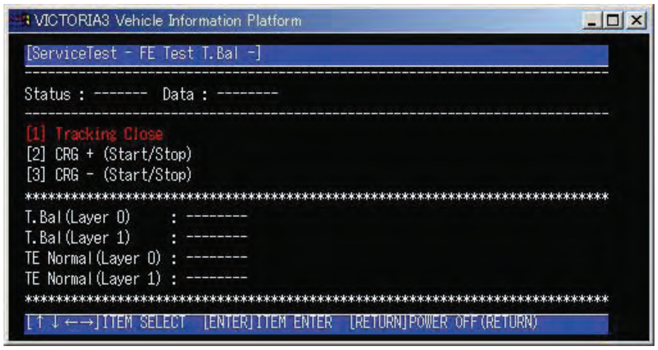


```
[ServiceTest - FE Test Forcus Closed -]
--------------------------------------------------------------------------
Status : -------  Data : --------
--------------------------------------------------------------------------
[1] T.Bal                   [4] CRG - (Start/Stop)
[2] Forcus Jump
[3] CRG + (Start/Stop)
**************************************************************************
FE MAX    : --------              FE MIN    : --------
AS MAX    : --------              ENV MAX   : --------
TE MAX    : --------              TE MIN    : --------
FE Normal : --------              S.Gain    : --------
**************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

[1] T.Bal ····················Adjusts the tracking balance.
[2] Forcus Jump ··········Focus jump
[3] CRG ＋(Start/Stop)·· Moves the carriage to the rim or stops the carriage.
[4] CRG －(Start/Stop)·· Moves the carriage to the center or stops the carriage.

FE MAX : FE MAX level
AS MAX : AS MAX level
FE Normal : FE normalization coefficient
TE MAX : TE MAX level
FE MIN : FE MIN level
ENV MAX : ENV MAX level
TE MIN : TE MIN level
S.Gain : Spindle gain coefficient

[Mecha ServiceTest - FE Test T.Bal -] screen

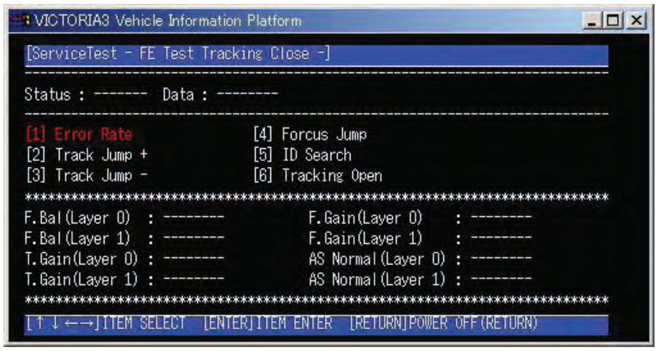


```
[ServiceTest - FE Test T.Bal -]
------------------------------------------------------------
Status : -------  Data : --------
------------------------------------------------------------
[1] Tracking Close
[2] CRG + (Start/Stop)
[3] CRG - (Start/Stop)
************************************************************
T.Bal(Layer 0)      : --------
T.Bal(Layer 1)      : --------
TE Normal(Layer 0) : --------
TE Normal(Layer 1) : --------
************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

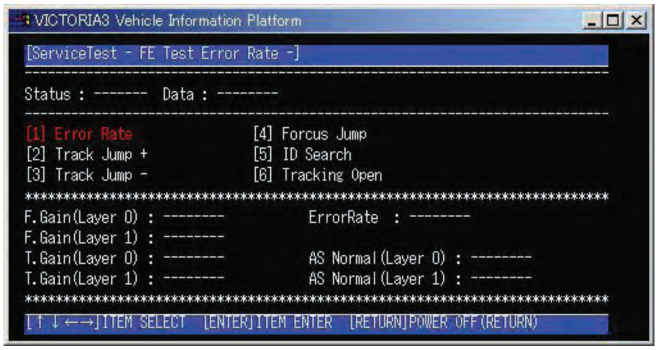
[1] Tracking Close ········	Closes the tracking
[2] CRG ＋(Start/Stop)···	Moves the carriage to the rim or stops the carriage.
[3] CRG －(Start/Stop)···	Moves the carriage to the center or stops the carriage.

T.Bal (Layer 0) : TBAL coefficient (layer0)
T.Bal (Layer 1) : TBAL coefficient (layer 1)
TE Normal (Layer 0) : TE normalization coefficient (layer0)
TE Normal (Layer 1) : TE normalization coefficient (layer 1)

[Mecha ServiceTest - FE Test Tracking Close -] screen



```
[ServiceTest - FE Test Tracking Close -]
------------------------------------------------------------
Status : -------  Data : --------
------------------------------------------------------------
[1] Error Rate              [4] Forcus Jump
[2] Track Jump +            [5] ID Search
[3] Track Jump -            [6] Tracking Open
************************************************************
F.Bal(Layer 0)  : --------        F.Gain(Layer 0)     : --------
F.Bal(Layer 1)  : --------        F.Gain(Layer 1)     : --------
T.Gain(Layer 0) : --------        AS Normal(Layer 0) : --------
T.Gain(Layer 1) : --------        AS Normal(Layer 1) : --------
************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```



```
[ServiceTest - FE Test Error Rate -]
------------------------------------------------------------
Status : -------  Data : --------
------------------------------------------------------------
[1] Error Rate              [4] Forcus Jump
[2] Track Jump +            [5] ID Search
[3] Track Jump -            [6] Tracking Open
************************************************************
F.Gain(Layer 0) : --------        ErrorRate  : --------
F.Gain(Layer 1) : --------
T.Gain(Layer 0) : --------        AS Normal(Layer 0) : --------
T.Gain(Layer 1) : --------        AS Normal(Layer 1) : --------
************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

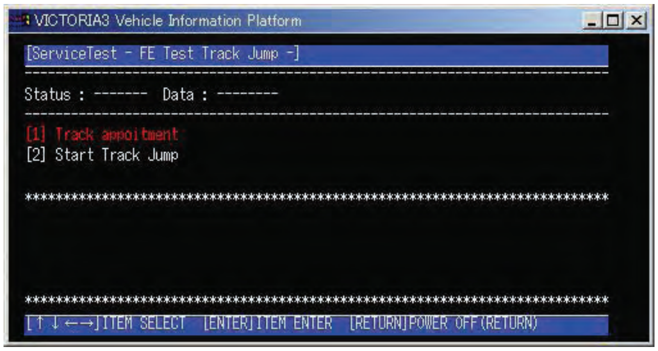
[1] Error Rate ·········	Implements measurement of error rate (no other operation is possible for approximately 10 seconds).
[2] Track Jump ＋····	Jumps by the specified number of tracks (in outer direction)
[3] Track Jump －····	Jumps by the specified number of tracks (in inner direction)
[4] Forcus Jump ·····	Implements focus jump (DVD only)
[5] ID Search ·········	Specifies ID Search (DVD only)
[6] Tracking Open ···	Opens tracking (Focus closed status: Returns to [Mecha ServiceTest - FE Test Focus Closed -] screen.)

※Play speed was fixed→L0 layer DVDx1.3-1.6CAV, CDx 4CLV L1 layer DVDx1.3-1.6CAV

F.Bal (0) : FBAL coefficient (layer 0)
F.Bal (1) : FBAL coefficient (layer 1)
T.Gain (0) : Tracking gain coefficient (layer 0)
T.Gain (1) : Tracking gain coefficient (layer 1)
F.Gain (0) : Focus gain coefficient (layer 0)
F.Gain (1) : Focus gain coefficient (layer 1)
AS Normal (0) : AS normalization adjustment value (layer 0)
AS Normal (1) : AS normalization adjustment value (layer 1)

ErrorRate : Error rate

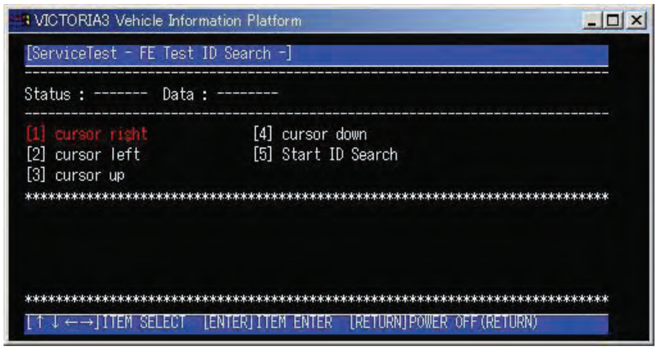
[Mecha ServiceTest - FE Test Track Jump -] screen



```
[ServiceTest - FE Test Track Jump -]
-----------------------------------------------------------------------
Status : -------  Data : --------
-----------------------------------------------------------------------
[1] Track appoitment
[2] Start Track Jump

***********************************************************************



***********************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

[1] Track appointment¥¥¥ Specification of track number (Mecha switches the 7 (DVD type), 5 (CD type) pattern cyclically.)
[2] Start Track Jump ¥¥¥Starts tracking jump (returns to [Mecha ServiceTest - FE Test Tracking Close -] screen).

[Mecha ServiceTest - FE Test ID Search -] screen



```
[ServiceTest - FE Test ID Search -]
-----------------------------------------------------------------------
Status : -------  Data : --------
-----------------------------------------------------------------------
[1] cursor right            [4] cursor down
[2] cursor left             [5] Start ID Search
[3] cursor up
***********************************************************************



***********************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

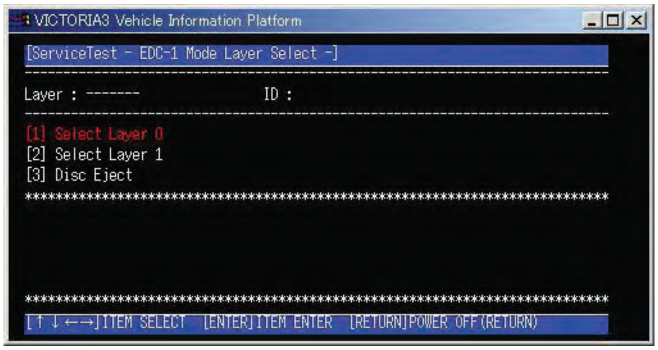
[1] cursor right¥¥¥¥¥¥Moves the cursor to the right.
[2] cursor left¥¥¥¥¥¥¥¥Moves the cursor to the left.
[3] cursor up ¥¥¥¥¥¥¥¥Moves the cursor up.
[4] cursor down ¥¥¥¥¥¥Moves the cursor down.
[5] Start ID search ¥¥¥Starts ID search (returns to [Mecha ServiceTest - FE Test TrackingClose -] screen).

3. About EDC test

EDC-1 Mode : Implements EDC test successively.
EDC- 2 Mode : Implements EDC test by the unit of blocks.

Operation procedure is similar for EDC-1 and EDC-2.

[Mecha ServiceTest - EDC-1 mode Layer Select -] screen



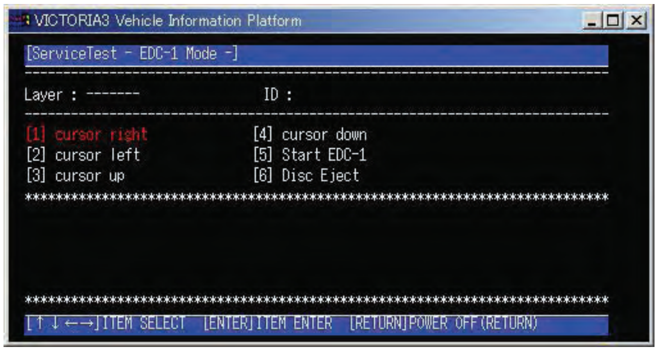
```
[ServiceTest - EDC-1 Mode Layer Select -]
----------------------------------------------------------------------------
Layer : -------                 ID :
----------------------------------------------------------------------------
[1] Select Layer 0
[2] Select Layer 1
[3] Disc Eject
****************************************************************************

****************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

Layer : Currently tested layer
ID : Currently tested ID

[1] Select Layer 0 ··· Selects layer 0
[2] Select Layer 1 ··· Selects layer 1
[3] Disc Eject ········ Ejects the disc.

※The system escapes from the Mecha service test mode by pressing [Return] on this screen. Though it may take some time in this case, do not press any key until the screen changes.

[Mecha ServiceTest - EDC-1 mode -]



```
[ServiceTest - EDC-1 Mode -]
----------------------------------------------------------------------------
Layer : -------                 ID :
----------------------------------------------------------------------------
[1] cursor right                [4] cursor down
[2] cursor left                 [5] Start EDC-1
[3] cursor up                   [6] Disc Eject
****************************************************************************

****************************************************************************
[↑↓←→]ITEM SELECT  [ENTER]ITEM ENTER  [RETURN]POWER OFF(RETURN)
```

Layer : Currently tested layer
ID : Currently tested ID

[1] cursor right········Moves the cursor to the right.
[2] cursor left········· Moves the cursor to the left.
[3] cursor up ··········Moves the cursor up.
[4] cursor down ······ Moves the cursor down.
[5] Start EDC-1 ······ Starts EDC test.
[6] Disc Eject ········· Ejects the disc.

4. Flow of test mode for Mecha service

Flow of test mode for Mecha service

1) Precautions

This product uses 5V and 3.3V as standard voltages. The electrical potential that is the reference for signals, is not GND, but VREF (approximately 2.2V) and VHALF (approximately 1.65V).

During product adjustments, if the reference voltage is mistakenly taken as GND, and a grounding contact is made, not only would it be impossible to measure the accurate electrical potential, but also the servo motor would malfunction, resulting in the application of a strong impact on the pick up. The following precautionary measures should be strictly adhered to, in order to avoid such problems.

The reference voltage and GND should not be confused when using the minus probe of a measurement device. When an oscilloscope is being used special care should be taken to make sure that the reference voltage is not connected to the probe of ch1 (on the minus side), while the probe of ch2 (on the minus side), is connected to GND. Further, since the body frame of most measurement devices have the same electrical potential as the minus side of the probe, the body frame of the measurement device should be set to floating ground.

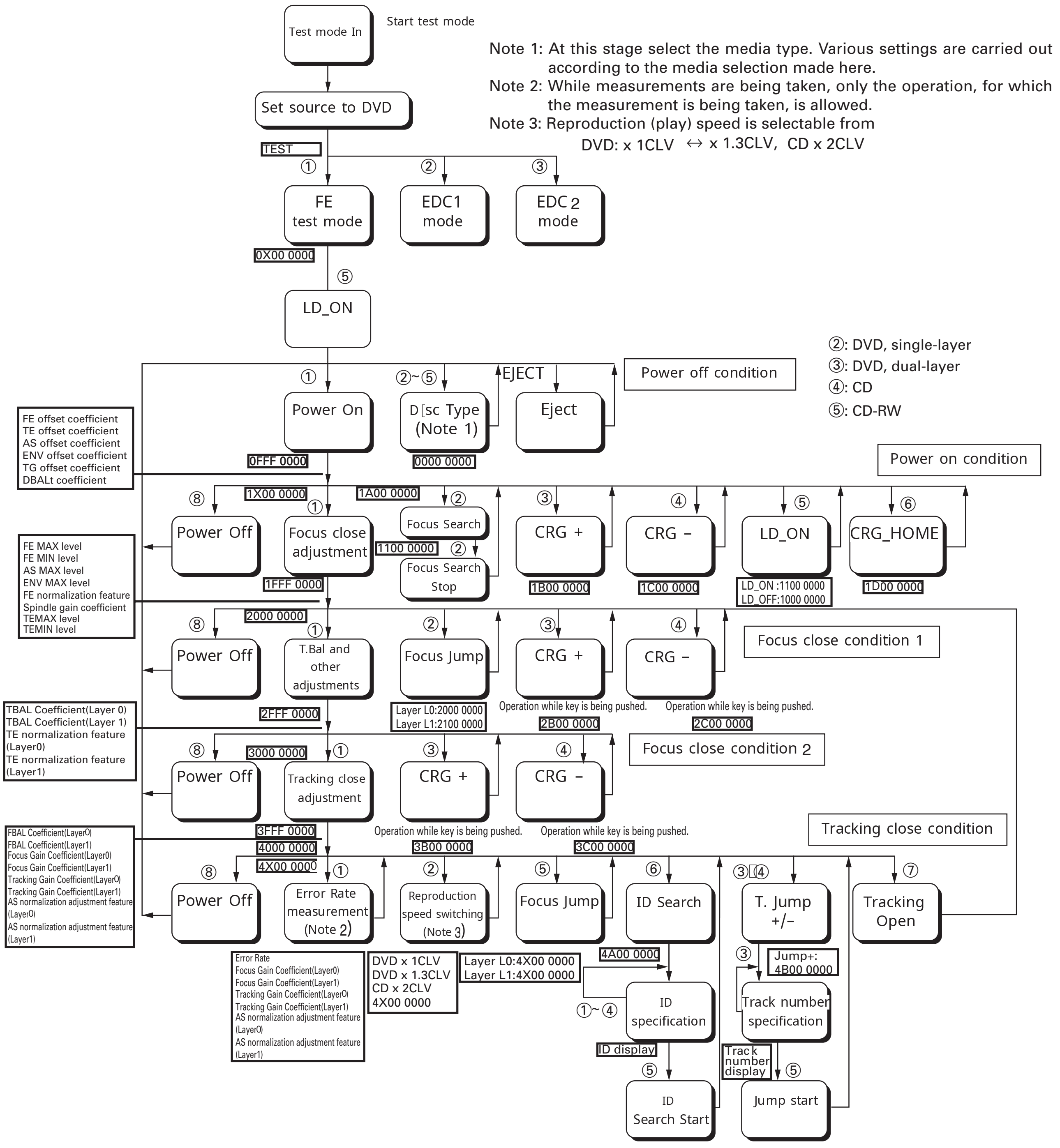
If the reference voltage is connected to GND by mistake, turn the regulator OFF immediately, or turn the power OFF.

- Remove the filters and wires used for measurements only after the regulator has been turned OFF.
- After the power supply is turned on, regulator ON the following adjustment and measurement are promptly done.
- Whenever the product is in the test mode, the software will not take any protective action. For this reason, special care should be taken to make sure that no mechanical or electrical shock could be applied to the product when taking measurements in the test mode.
- Whenever the EJECT key is pressed to eject the disk, no other keys, other than the EJECT key, should be pressed until the disk eject action has been completed.
- Press the EJECT key only after the disk has stopped completely.
- If the product hangs up turn the power OFF immediately.
- Laser didoes may be damaged, if the volume switch for the laser power adjustment of the pick up unit, is turned.

Attention)

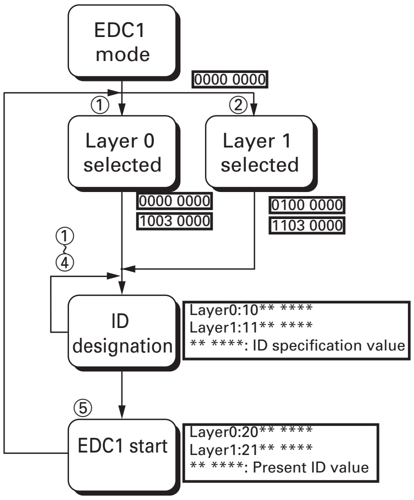
- Test mode starting procedure
  ACC ON while pressing the BAND and ESC keys together.
- Test mode stopping procedure
  ACC and Backup OFF.

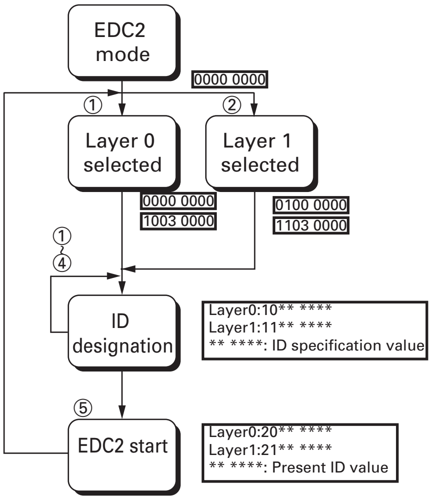
● Front-End test mode flow chart



Note 1: At this stage select the media type. Various settings are carried out according to the media selection made here.
Note 2: While measurements are being taken, only the operation, for which the measurement is being taken, is allowed.
Note 3: Reproduction (play) speed is selectable from
DVD: x 1CLV ↔ x 1.3CLV, CD x 2CLV

Test mode In
Start test mode
Set source to DVD
TEST
①
②
③
FE test mode
EDC1 mode
EDC 2 mode
0X00 0000
⑤
LD_ON
②: DVD, single-layer
③: DVD, dual-layer
④: CD
⑤: CD-RW
①
②~⑤
EJECT
Power off condition
Power On
D[sc Type (Note 1)
Eject
FE offset coefficient
TE offset coefficient
AS offset coefficient
ENV offset coefficient
TG offset coefficient
DBALt coefficient
0FFF 0000
0000 0000
Power on condition
⑧
1X00 0000
1A00 0000
②
③
④
⑤
⑥
①
Power Off
Focus close adjustment
Focus Search
1100 0000
Focus Search Stop
CRG +
CRG –
LD_ON
CRG_HOME
FE MAX level
FE MIN level
AS MAX level
ENV MAX level
FE normalization feature
Spindle gain coefficient
TEMAX level
TEMIN level
1FFF 0000
1B00 0000
1C00 0000
LD_ON :1100 0000
LD_OFF:1000 0000
1D00 0000
2000 0000
⑧
①
②
③
④
Power Off
T.Bal and other adjustments
Focus Jump
CRG +
CRG –
Focus close condition 1
Layer L0:2000 0000
Layer L1:2100 0000
Operation while key is being pushed.
Operation while key is being pushed.
2B00 0000
2C00 0000
TBAL Coefficient(Layer 0)
TBAL Coefficient(Layer 1)
TE normalization feature (Layer0)
TE normalization feature (Layer1)
2FFF 0000
⑧
3000 0000
①
③
④
Focus close condition 2
Power Off
Tracking close adjustment
CRG +
CRG –
Operation while key is being pushed.
Operation while key is being pushed.
3B00 0000
3C00 0000
Tracking close condition
FBAL Coefficient(Layer0)
FBAL Coefficient(Layer1)
Focus Gain Coefficient(Layer0)
Focus Gain Coefficient(Layer1)
Tracking Gain Coefficient(Layer0)
Tracking Gain Coefficient(Layer1)
AS normalization adjustment feature (Layer0)
AS normalization adjustment feature (Layer1)
3FFF 0000
4000 0000
4X00 0000
⑧
①
②
⑤
⑥
③④
⑦
Power Off
Error Rate measurement (Note 2)
Reproduction speed switching (Note 3)
Focus Jump
ID Search
T. Jump +/–
Tracking Open
Error Rate
Focus Gain Coefficient(Layer0)
Focus Gain Coefficient(Layer1)
Tracking Gain Coefficient(Layer0)
Tracking Gain Coefficient(Layer1)
AS normalization adjustment feature (Layer0)
AS normalization adjustment feature (Layer1)
DVD x 1CLV
DVD x 1.3CLV
CD x 2CLV
4X00 0000
Layer L0:4X00 0000
Layer L1:4X00 0000
4A00 0000
①~④
ID specification
ID display
⑤
ID Search Start
③
Jump+: 4B00 0000
Track number specification
Track number display
⑤
Jump start


EDC1 mode
0000 0000
①
②
Layer 0 selected
Layer 1 selected
0000 0000
1003 0000
0100 0000
1103 0000
①
④
ID designation
Layer0:10** ****
Layer1:11** ****
** ****: ID specification value
⑤
EDC1 start
Layer0:20** ****
Layer1:21** ****
** ****: Present ID value


EDC2 mode
0000 0000
①
②
Layer 0 selected
Layer 1 selected
0000 0000
1003 0000
0100 0000
1103 0000
①
④
ID designation
Layer0:10** ****
Layer1:11** ****
** ****: ID specification value
⑤
EDC2 start
Layer0:20** ****
Layer1:21** ****
** ****: Present ID value

F-close and F-search cannot be executed, unless LD-ON is set.
[If F-close isn't executed within 9 seconds after LD-ON, it switches to LD-OFF automatically.
And even if F-search is executed within 9 seconds after LD-ON, it also switches to LD-OFF.]
Please carry out F-close after carrying out power-off at once and carrying out power-on again, when carrying out F-close after performing F-search.

The track number designation is selected from the track numbers already prepared for selection.
Switching to cyclic operation is made at step ③, and the decision is finalized (entered) in step ④.

For CD: Tracks 1, 4, 10, 11 and 32.

For DVD: Tracks 1, 4, 10, 11, 32, 64 and 100.

Method for designating an ID address:

- A number of digits are determined through commands ① and ②. Numerical UP/DOWN operations are performed through commands ③ and ④. The decision is finalized (entered) with command ⑤.

Display

Error Code List

Error status from DVD microcomputer	Contents	Display
0X50	Mecha. error	No display
0X40	No disc	No display
0X30	The temperature is abnormal	Thermal Protection in Motion
0X20	Read error	Error-02-XX
0XE2	Non-playable disc	NON-PLAYABLE DISC
0X90	Different region disc	DIFFERENT REGION DISC
0XFF	Undefined error	Error-FF

Error code of read error(Part of XX)

Error Code	Contents	Display
0X99	Data cannot read	Please confirm the disc
0X80	The address cannot be found	Please confirm the disc
0X90	Focus error	Please confirm the disc
0X91	Spindle lock NG	DVD is stopping because mechanism detected abnormality
0X92	Carriage home NG	DVD is stopping because mechanism detected abnormality
0X93	FOK error	Please confirm the disc
0X94	ID/Subcode cannot be read	Please confirm the disc
0X95	High spindle rotation	DVD is stopping because mechanism detected abnormality
0X96	Row spindle rotation	DVD is stopping because mechanism detected abnormality
0X98	TOC cannot be found	Please confirm the disc
0X9A	AV chip error	DVD is stopping because mechanism detected abnormality
0X9B	RecaveryNG(BE)	DVD is stopping because mechanism detected abnormality
0X9C	Play state error	
0X9D	Disc data error	
0X9E	Serface error (Disc distinction is improper)	

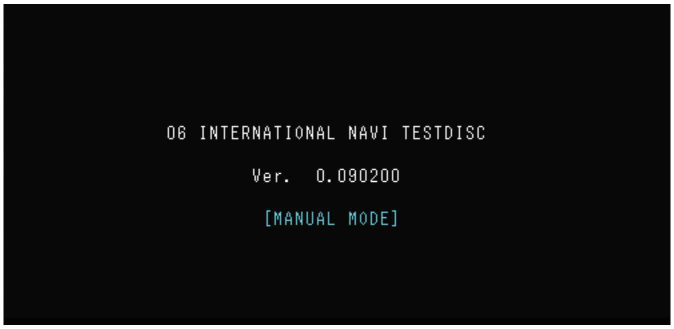
6.7 TEST DISC

1. Start/Shutdown

1-1. Start

After inserting the test disc, the title "'06 INTERNATIONAL NAVI TESTDISC:GGV11 94" will appear.
After the title is displayed, the main menu will be displayed.

Test Disc (Manual Check Version) Title Screen



06 INTERNATIONAL NAVI TESTDISC

Ver. 0.090200

[MANUAL MODE]

1-2. Shutdown

No operation is required.

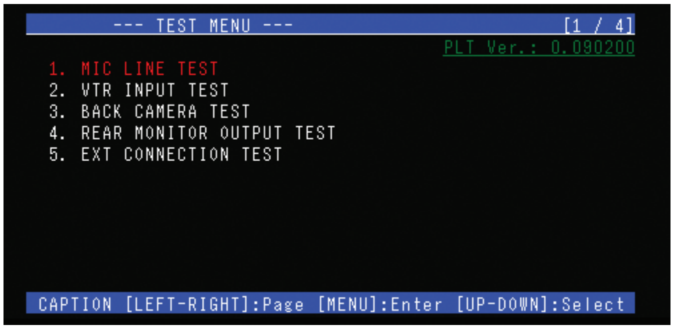
2. Key operation

- How to operate the MANUAL MODE [Manual Check Version] is as follows:
  1. Use the remote control for operation
  2. Use [←][→] keys to select the menu screen.
  3. Use [↑] [↓] keys to select the test items and select [MENU] key and move to the testing screen.
  4. Use [AV] key to return to the menu screen.

  ✻ Please refer to explanation on each screen for details.

3. Line test (Common testing items for service)

Menu screen

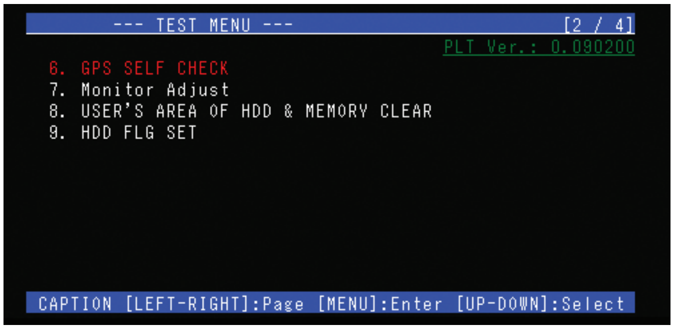


--- TEST MENU --- [1 / 4]

PLT Ver.: 0.090200

1. MIC LINE TEST
2. VTR INPUT TEST
3. BACK CAMERA TEST
4. REAR MONITOR OUTPUT TEST
5. EXT CONNECTION TEST

CAPTION [LEFT-RIGHT]:Page [MENU]:Enter [UP-DOWN]:Select

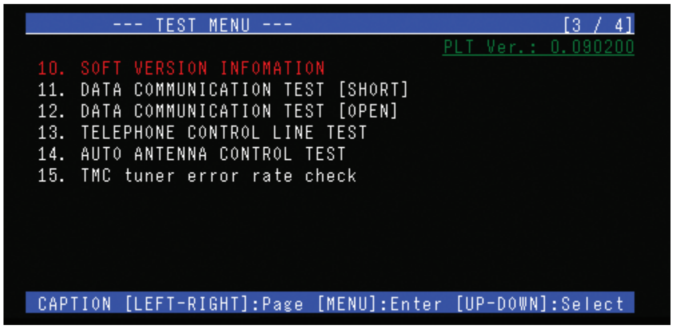


--- TEST MENU --- [2 / 4]

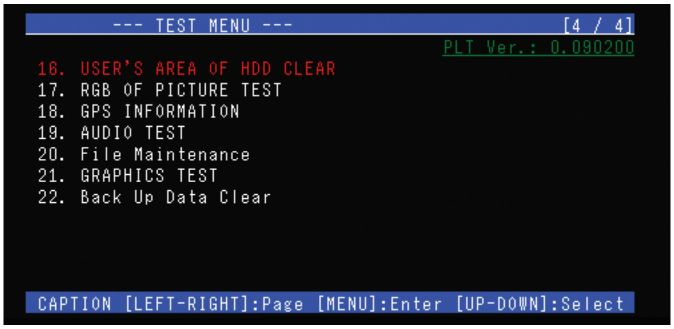
PLT Ver.: 0.090200

6. GPS SELF CHECK
7. Monitor Adjust
8. USER'S AREA OF HDD & MEMORY CLEAR
9. HDD FLG SET

CAPTION [LEFT-RIGHT]:Page [MENU]:Enter [UP-DOWN]:Select

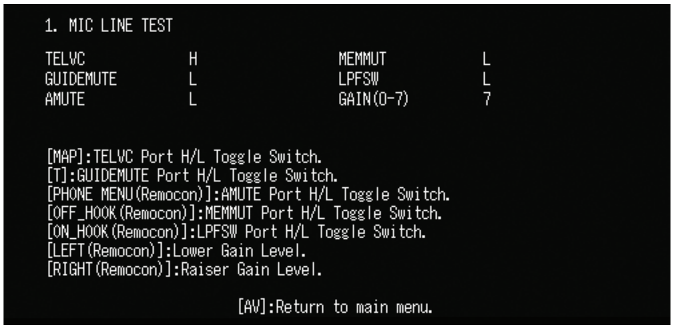


```
    --- TEST MENU ---                          [3 / 4]
                                    PLT Ver.: 0.090200
10. SOFT VERSION INFOMATION
11. DATA COMMUNICATION TEST [SHORT]
12. DATA COMMUNICATION TEST [OPEN]
13. TELEPHONE CONTROL LINE TEST
14. AUTO ANTENNA CONTROL TEST
15. TMC tuner error rate check

CAPTION [LEFT-RIGHT]:Page [MENU]:Enter [UP-DOWN]:Select
```



```
    --- TEST MENU ---                          [4 / 4]
                                    PLT Ver.: 0.090200
16. USER'S AREA OF HDD CLEAR
17. RGB OF PICTURE TEST
18. GPS INFORMATION
19. AUDIO TEST
20. File Maintenance
21. GRAPHICS TEST
22. Back Up Data Clear

CAPTION [LEFT-RIGHT]:Page [MENU]:Enter [UP-DOWN]:Select
```

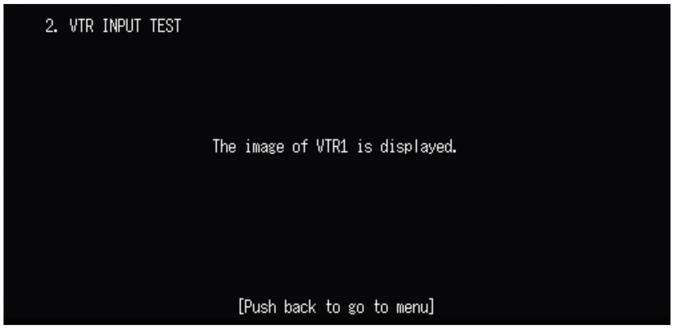
3-1(4-1). Microphone Input Line Test(not for service)



```
1. MIC LINE TEST

TELVC          H              MEMMUT         L
GUIDEMUTE      L              LPFSW          L
AMUTE          L              GAIN(0-7)      7


[MAP]:TELVC Port H/L Toggle Switch.
[T]:GUIDEMUTE Port H/L Toggle Switch.
[PHONE MENU(Remocon)]:AMUTE Port H/L Toggle Switch.
[OFF_HOOK(Remocon)]:MEMMUT Port H/L Toggle Switch.
[ON_HOOK(Remocon)]:LPFSW Port H/L Toggle Switch.
[LEFT(Remocon)]:Lower Gain Level.
[RIGHT(Remocon)]:Raiser Gain Level.

                        [AV]:Return to main menu.
```

- Signals are relayed in the following order:
  MICIN →ADC-L →Inside ASIC →DAC-L →Jig →ADC-R →Inside ASIC →DAC-R →SP line
  Put audio signals into MICIN and test the audio output and input level.
- Using [MAP] key, conduct a toggle operation of "H"/"L" on TELVC(TEL/NOISE) terminal.
- Using [T] key, conduct a toggle operation of "H"/"L" in GUIDEMUTE(ONSEIMUTE) terminal.
- Using [PHONE MENU] key (Steering Remote Controller <CD-SR1>), perform a toggle operation of "H"/"L" in AMUTE (GUIDEMUTE) terminal.
- Using [OFF HOOK] key (Steering Remote Controller <CD-SR1>), perform a toggle operation of "H"/"L" in MEMMUT (MEMMUTE) terminal.
- Using [ON HOOK] key (Steering Remote Controller <CD-SR1>), perform a toggle operation of "H"/"L" in LPFSW terminal.
- Perform Gain UP using [→] and Gain Down [←].
- After test is completed, use [AV] key to return to the main menu.

3-2(4-2). Testing of External Input



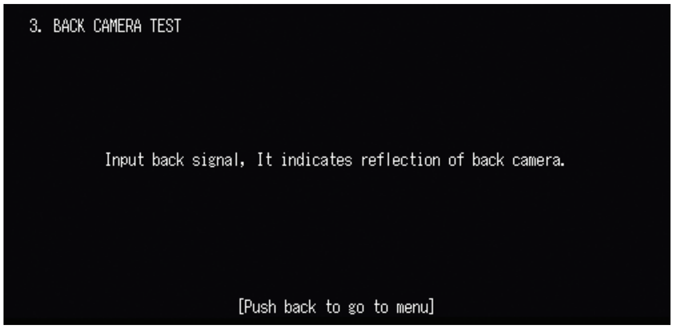
2. VTR INPUT TEST

The image of VTR1 is displayed.

[Push back to go to menu]

- When starting the test, set VTR 1 input ON and switch the source to VTR.
  When finishing the test, set the VTR 1 input OFF and switch the source to OFF.
- During the test, input parking brake signals (GND).
- Video image of VTR1 appears on the screen.
- After the test is completed, use [AV] key to go back to the main menu.

3-3(4-3). Testing of Back Camera



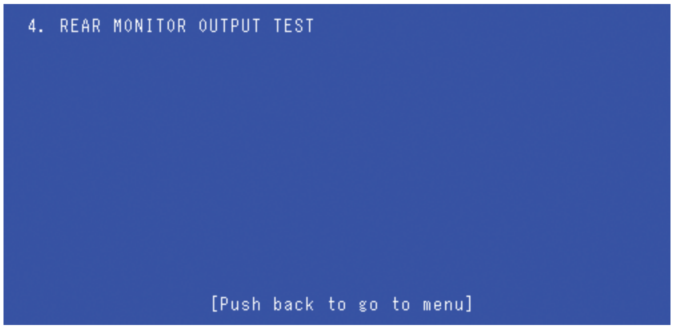
3. BACK CAMERA TEST

Input back signal, It indicates reflection of back camera.

[Push back to go to menu]

- The purpose is to confirm that by inputting the reverse gear signal, camera video image become available in the setting of monito[ing images from the rear view camera.
- When starting the test, set the back camera input ON and set it OFF when it is completed.
- During the test, keep sending back-signals.
- After test is completed, use [AV] key to go back to the main menu.

3-4(4-4). Testing of Rear Monitor Output

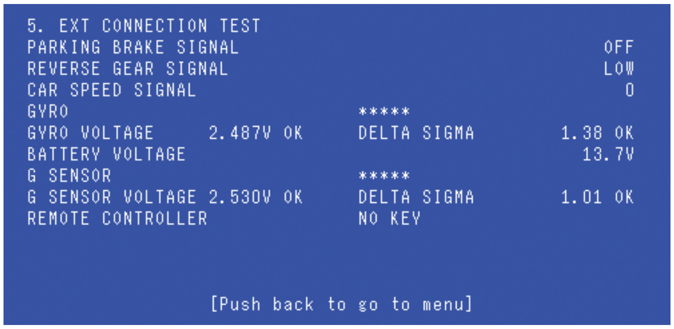


4. REAR MONITOR OUTPUT TEST

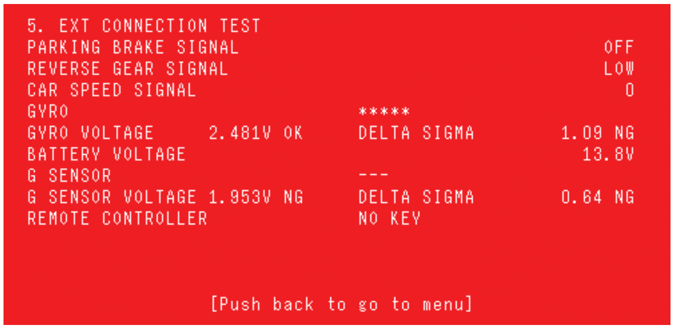
[Push back to go to menu]

- Confirm that a navigation video image is output on the rear monitor.
- When starting the test, set the rear monitor output ON and set the rear monitor output Off when finishing it.
- After test is completed, use [AV] key to go back to the main menu.

3-5(4-5). External connection test



```
5. EXT CONNECTION TEST
PARKING BRAKE SIGNAL                                 OFF
REVERSE GEAR SIGNAL                                  LOW
CAR SPEED SIGNAL                                       0
GYRO                           *****
GYRO VOLTAGE     2.487V OK     DELTA SIGMA       1.38 OK
BATTERY VOLTAGE                                    13.7V
G SENSOR                       *****
G SENSOR VOLTAGE 2.530V OK     DELTA SIGMA       1.01 OK
REMOTE CONTROLLER              NO KEY


                 [Push back to go to menu]
```



```
5. EXT CONNECTION TEST
PARKING BRAKE SIGNAL                                 OFF
REVERSE GEAR SIGNAL                                  LOW
CAR SPEED SIGNAL                                       0
GYRO                           *****
GYRO VOLTAGE     2.481V OK     DELTA SIGMA       1.09 NG
BATTERY VOLTAGE                                    13.8V
G SENSOR                       ---
G SENSOR VOLTAGE 1.953V NG     DELTA SIGMA       0.64 NG
REMOTE CONTROLLER              NO KEY


                 [Push back to go to menu]
```

- The status of the items shown above will be renewed every around 0.5 second.
- When the gyro is in operation, beep sound comes out while G sensor is in action.
  Gyro under operating conditions : Low pitched sound (440Hz)
  G sensor in action : High pitched sound (360Hz)

- OK/NG judgment conditions

◆OK/NG judgment of Gyro output values

(Determine differences between Gyro output value and Offset standard values and make OK/NG judgment.)

Offset standard value : 2.5[V]
- Within ±0.15[V] : Output voltage OK (OK display)
- Within ±0.15 - ±0.30[V] : Secular change tolerance (USABLE display)
- ±0.30[V] or greater : Output voltage NG (NG display)

◆OK/NG judgment of G sensor output values

(Determine differences between G sensor output values and Offset standard values and make OK/NG judgment.)

Offset standard value : 2.674[V]
- Within ±0.25[V] : Output voltage OK (OK display)
- Within ±0.25 - ±0.40[V] : Secular change tolerance (USABLE display)
- ±0.40[V] or greater : Output voltage NG (NG display)

◆OK/NG judgment of temperature sensor output values

(Check temperature [°C]of the temperature sensor to make OK/NG judgment)
- –40.0[°C] - 85.0[°C] :Temperature sensor OK (OK display)
- Other than above : Temperature sensor NG (NG display)

※USABLE range is OK range of parts with secular change considered. (The screen displays USABLE.)
※OK range is criteria to judge if they are within OK range at the time of shipping inspection.
※Service division is expected to determine parts to be OK items when they are Usable.

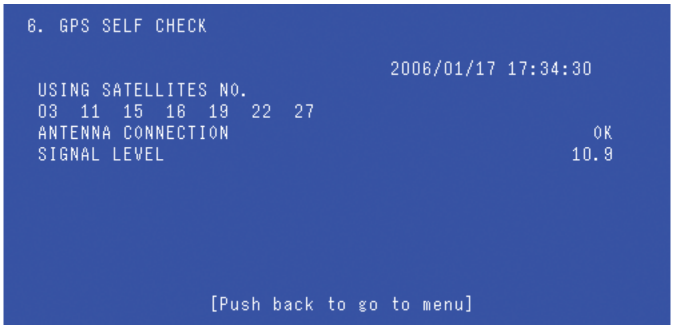
- After the test, use [AV] key to return to the main menu.

When some errors occur to each inspection item, the following error messages are displayed.

<Error List>

Inspection item	Displayed message	Error details
Parking brake	–	–
Reverse Pulse Gyro Gyro voltage Back up voltage G sensor G sensor voltage Temperature of Temperature sensor	GPS UN-CONNECT	When communication between the navigation system and GPS unit is not established for some reason, this will be displayed. This can be mainly because something is wrong with the hardware. Something can be wrong with the navigation system itself, serial interface (including poor serial connection), and GPS unit.
	COMMAND ERROR	When no API response is returned from GPS unit, this will be displayed. Following incidents can be causes for it. ・Timeout occurs just because something is wrong with serial interface (poor contact), or data gets garbled and looks like another response. ・When a response different from the requested API is returned because of malfunction of GPS unit and another request for API is already requested, the time-out response to the first request is determined to be incorrect one. ・Navigation system performs so slow that it cannot handle the response within the time limit even though a response is returned from GPS unit, or GPS unit cannot handle the same kind of situation within the time limit. (The time limit is 1.5 sec.) ・Others
Remote control key	–	–

3-6(4-6). GPS reception Check

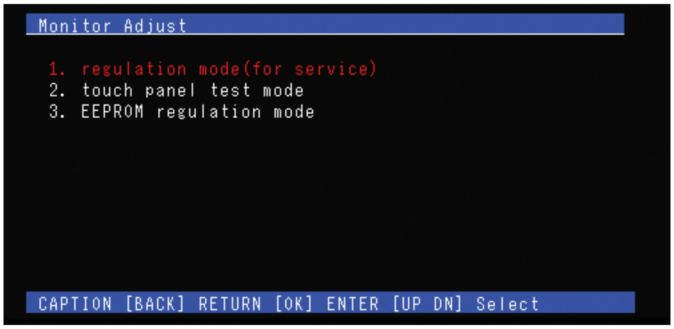


```
6. GPS SELF CHECK

                                         2006/01/17 17:34:30
 USING SATELLITES NO.
 03  11  15  16  19  22  27
 ANTENNA CONNECTION                                       OK
 SIGNAL LEVEL                                           10.9




                 [Push back to go to menu]
```

- Conditions for GPS signal reception are shown below:
- Test OK criteria:
  - Antenna connection is OK.
  - Data can be acquied from more than one satellite.
  - Time is displayed.
- When all the conditions are satisfied, the background color turns blue.
- After inspection, use [AV] key to go back to the main menu.

<Error List>	
Displayed messages	Error details
GPS UN-CONNECTING	When communication between the navigation system and GPS unit is not established for some reason, this will be displayed. This can be mainly because something is wrong with the hardware. Something can be wrong with the navigation system itself, serial interface (including poor serial connection), and GPS unit.
COMMAND ERROR INVALID DATA	When no API response is returned from GPS unit, this will be displayed. Following incidents can be causes for it. ・Timeout occurs just because something is wrong with serial interface (poor contact), or data gets garbled and looks like another response. ・When a response different from the requested API is returned because of malfunction of GPS unit and another request for API is already requested, the time-out response to the first request is determined to be incorrect one. ・Navigation system performs so slow that it cannot handle the response within the time limit even though a response is returned from GPS unit, or GPS unit cannot handle the same kind of situation within the time limit. (The time limit is 1□5 sec.) ・Others

3-7(4-7). Monitor adjustment



```
 Monitor Adjust

  1. regulation mode(for service)
  2. touch panel test mode
  3. EEPROM regulation mode





 CAPTION [BACK] RETURN [OK] ENTER [UP DN] Select
```

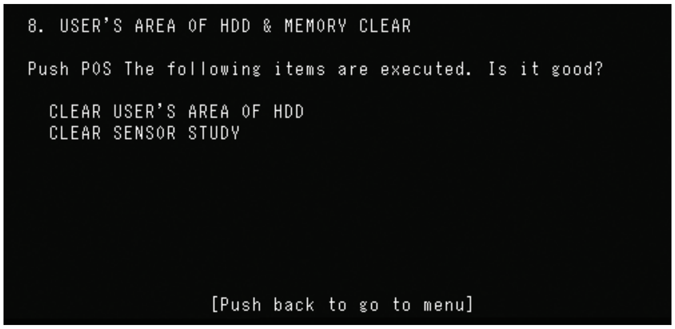
- Perform monitor adjustment as follows:

  1. Adjustment mode for service : Monitor setting values are adjustable.
  2. Touch panel test mode : Touch panel related settings such as calibration can be performed.
  3. EEPROM adjustment mode : This mode is not used for service.

- Please refer to the description of "Monitor test mode" of Test mode for details.

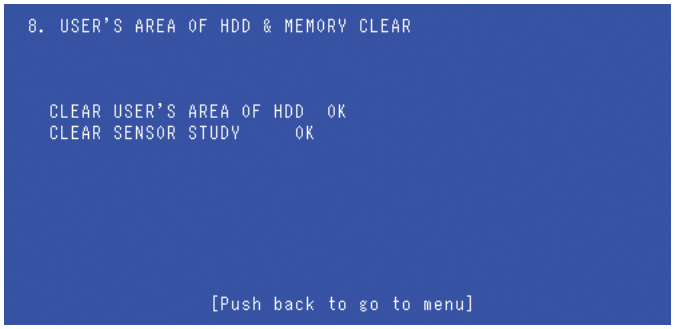
3-8(4-8). Clearing of all HDD user region & Main memory

※SENSOR STUDY is cleared in this inspection.



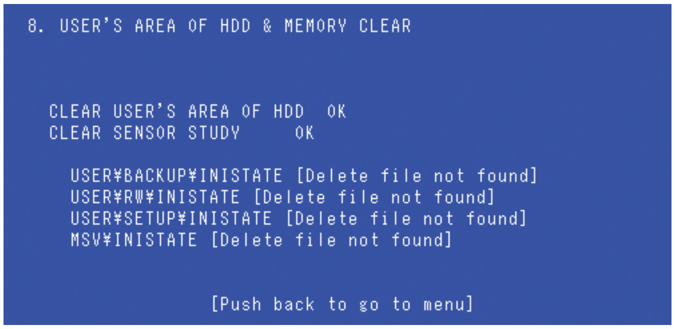
```
8. USER'S AREA OF HDD & MEMORY CLEAR

Push POS The following items are executed. Is it good?

  CLEAR USER'S AREA OF HDD
  CLEAR SENSOR STUDY








                   [Push back to go to menu]
```

- Push down "MAP" key, clearing will start.
- Clear Sensor. (clear SENSOR STUDY data on HDD (USER \ SYSTEM \ GPS related) and SENSOR STUDY data region of GPS unit.)
- Clear HDD user data area. (MSV, USER \ RW, USER \ RW \ HOLD, USER \ SETUP, USER \ RACKUP shall be deleted.)
- After the inspection screen is displayed, use [MAP] key to perform the process described above.



```
8. USER'S AREA OF HDD & MEMORY CLEAR



  CLEAR USER'S AREA OF HDD  OK
  CLEAR SENSOR STUDY     OK







                   [Push back to go to menu]
```

- After clearing is completed, the executing result is displayed.
- After clearing is completed, use [AV] key to go back to the main menu.



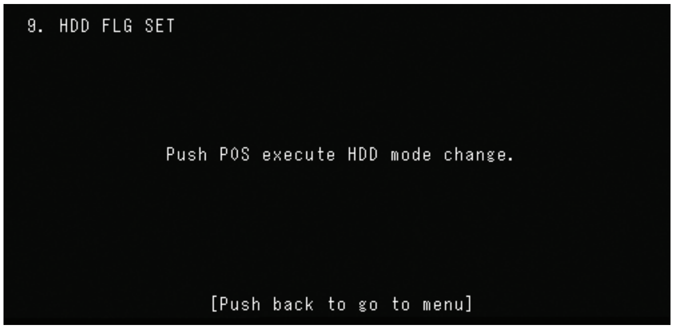
```
8. USER'S AREA OF HDD & MEMORY CLEAR



  CLEAR USER'S AREA OF HDD  OK
  CLEAR SENSOR STUDY     OK

    USER¥BACKUP¥INISTATE [Delete file not found]
    USER¥RW¥INISTATE [Delete file not found]
    USER¥SETUP¥INISTATE [Delete file not found]
    MSV¥INISTATE [Delete file not found]


                   [Push back to go to menu]
```

- Once HDD user area is cleared, no folders exist until the next restart and no folders to be deleted are found. Then the results above will be displayed.
- Although there are no files to be deleted, processing is completed normally.

<Clearing of HDD user area Error list> Shown below are errors which occur when HDD user area is cleared.	
Displayed errors	Error factors
Delete file not found	When no files or directory to be deleted are found, this will be displayed. However, this is not an error as HDD has no files to delete.
Atapi device error	When something is wrong with the device, this will be displayed.
CRC error, UnCorrectable error	When it fails in reading and writing data, this will be displayed.
It failed to find Drive.	When no drive is specified or HDD driver cannot be opened, this will be displayed.
Drive format error	When format command is not executed successfully, this will be displayed.
Error	This will be displayed in the case of errors other than those mentioned above.

<Clearing of Main Memory Error list> Shown below are errors which occur when Main Memory (Clearing of SENSOR STUDY) is cleared.	
Displayed errors	Error factors
CLEAR ONLY SENSOR STUDY OF HDD. GPS NONCONNECT.	This is displayed when GPS is not connected (when GPS is out of order).
It failed to clear SENSOR STUDY.	This is displayed when SENSOR STUDY CLEAR COMMAND does not work. (Both HDD and GPS cannot be cleared.)
It failed to communicate with GPS unit.	This is displayed when time-out occurs while communicating with GPS unit

3-9(4-9). HDD shipping flag setting



9. HDD FLG SET

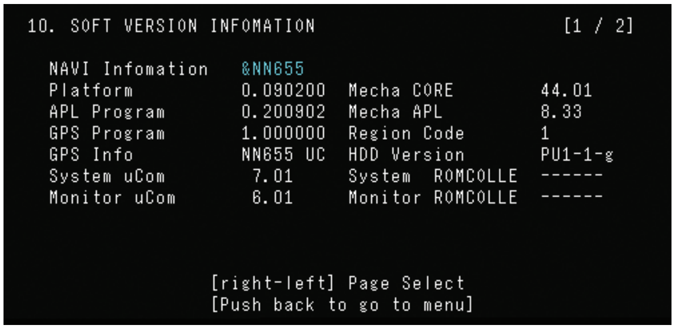
Push POS execute HDD mode change.

[Push back to go to menu]

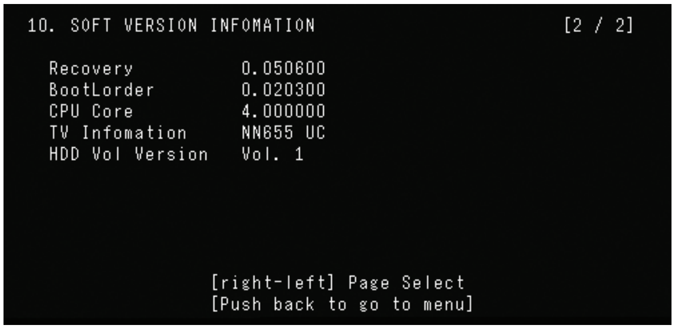
- Set HDD to the shipping status. Contents of HDD will not be damaged.
- Push down "MAP" key, and HDD shipping flag setting (HDD mode change) will start.
- After setting HDD shipping flag, use [AV] key to go back to the main menu.

<Error list> Shown below are errors that take place at the time of HDD shipping flag NG (HDD mode change NG). ※Error codes are all decimal numbers.	
Displayed errors	Error factors
It failed to open HDD device.	This error occurs because it fails to open HDD device.
Parameter error of HDD mode change.	This error occurs because the parameter is incorrect. (Error code :87)
It was refused to request HDD mode change.	This error occurs because the parameter is incorrect. (Error code :5)
It was timeout to request HDD mode change.	This error occurs because the request take so long that timeout occurs. (Error code : 1053)
It failed HDD mode change.[0x********]	This is displayed when mode change fails to be executed. [********] represents error codes value. [Example] ・ NG occurs because HDD is unconnected. (Error code : 55)

3-10(4-10). Soft Version Display



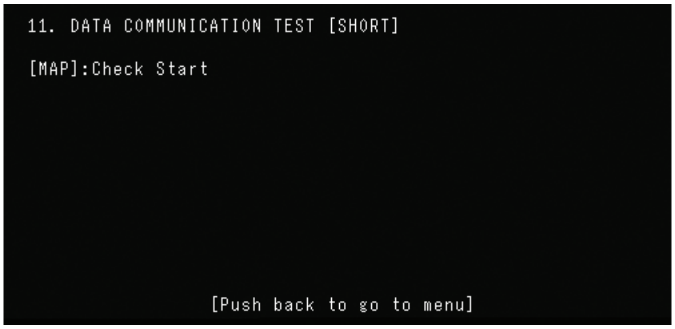
```
10. SOFT VERSION INFOMATION                        [1 / 2]

  NAVI Infomation    &NN655
  Platform           0.090200  Mecha CORE        44.01
  APL Program        0.200902  Mecha APL         8.33
  GPS Program        1.000000  Region Code       1
  GPS Info           NN655 UC  HDD Version       PU1-1-g
  System uCom         7.01     System  ROMCOLLE  ------
  Monitor uCom        6.01     Monitor ROMCOLLE  ------


                   [right-left] Page Select
                   [Push back to go to menu]
```



```
10. SOFT VERSION INFOMATION                        [2 / 2]

  Recovery           0.050600
  BootLorder         0.020300
  CPU Core           4.000000
  TV Infomation      NN655 UC
  HDD Vol Version    Vol. 1


                   [right-left] Page Select
                   [Push back to go to menu]
```

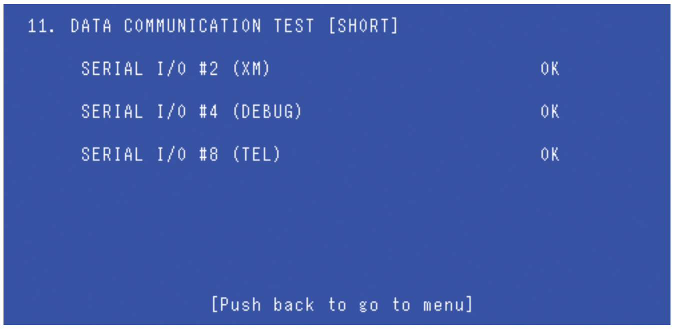
- Software version will be displayed.
- Using [←→] key, pages can be turned.
- Use [↓] key to move to the next item.
- ROM's location for each microcomputer is indicated as "------", ROM's location is not indicated.
- After the inspection is completed, use [AV] key to go back to the main menu.

3-11(4-11). Data communication test (Short)(not for service)



```
11. DATA COMMUNICATION TEST [SHORT]

[MAP]:Check Start


                   [Push back to go to menu]
```

- Perform SIO connection short check.
- Use [MAP] key to start the test.

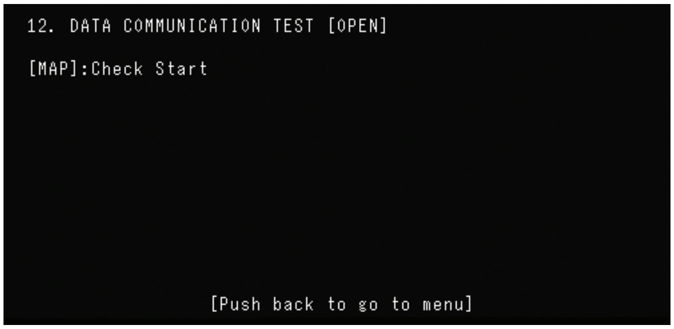


```
11. DATA COMMUNICATION TEST [SHORT]

     SERIAL I/O #2 (XM)                   OK

     SERIAL I/O #4 (DEBUG)                OK

     SERIAL I/O #8 (TEL)                  OK


                   [Push back to go to menu]
```

SERIAL I/O #2(XM) is displayed
UC model only.

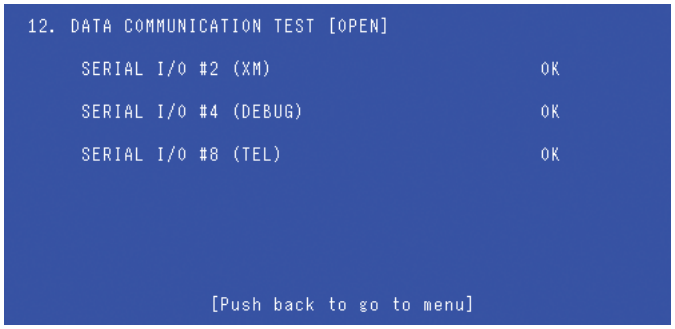
- When loopback for CH 2, CH 4, CH 8 is OK, all the test channels are supposed to be OK and the screen above will be displayed.
- After the test is completed, use [AV] key to go back to the main menu.

3-12(4-12). Data communication (Open check)



```
12. DATA COMMUNICATION TEST [OPEN]

[MAP]:Check Start




                        [Push back to go to menu]
```

- Perform SIO connection open check.
- Do not connect anything to the terminal of each channel. It is OK when the terminal is open.
- Use [MAP] key to start the test.

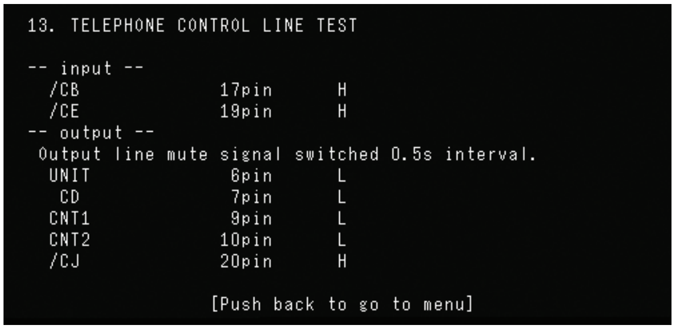


```
12. DATA COMMUNICATION TEST [OPEN]

     SERIAL I/O #2 (XM)                         OK

     SERIAL I/O #4 (DEBUG)                      OK

     SERIAL I/O #8 (TEL)                        OK



                        [Push back to go to menu]
```

SERIAL I/O #2(XM) is displayed
UC model only.

- When open-checking of CH 2, CH 4, and CH 8 turned out OK, and the test channels are all OK, the screen above will be displayed.
- After the test, use [AV] key to go back to the main menu.

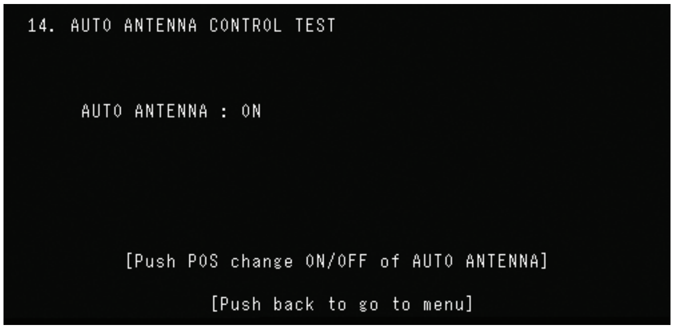
3-13(4-13). Telephone Control Line Test



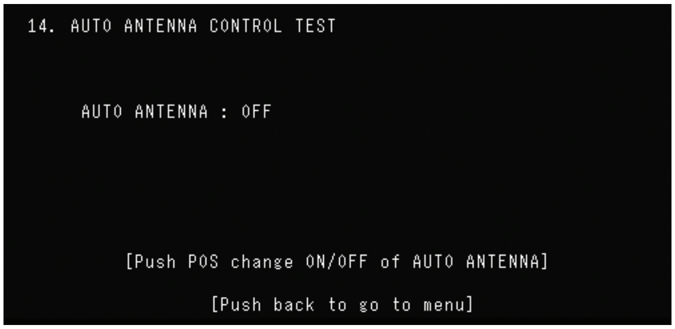
```
13. TELEPHONE CONTROL LINE TEST

-- input --
  /CB              17pin      H
  /CE              19pin      H
-- output --
 Output line mute signal switched 0.5s interval.
  UNIT              6pin      L
   CD               7pin      L
  CNT1              9pin      L
  CNT2             10pin      L
  /CJ              20pin      H

                        [Push back to go to menu]
```

- This is a telephone control line test. Output line signal is switched at 0.5 second interval.
- After the test is completed, use [AV] key to go back to the main menu.

3-14(4-14). Auto Antenna Control Test



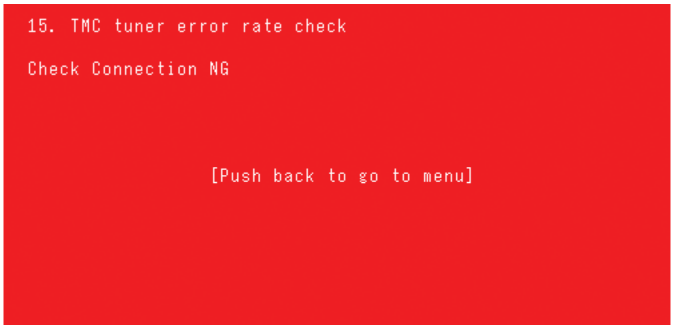
```
14. AUTO ANTENNA CONTROL TEST



     AUTO ANTENNA : ON




                [Push POS change ON/OFF of AUTO ANTENNA]

                        [Push back to go to menu]
```



```
14. AUTO ANTENNA CONTROL TEST

    AUTO ANTENNA : OFF



          [Push POS change ON/OFF of AUTO ANTENNA]

                [Push back to go to menu]
```

- When this test starts, NAVI link setting of AUTO ANTENNA will also function.
- Push down [MAP] key, and ON/OFF of the auto antenna can be switched.
- After the test is completed, use [AV] key to go back to the main menu.
- When getting back to the main menu, restore AM/FM link setting to Auto ANTENNA (initial setting).

3-15(4-15). TMC Tuner Error Measurement Check(EW only)



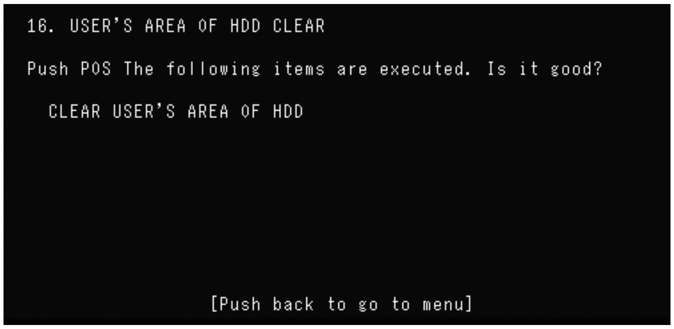
```
15. TMC tuner error rate check

Check Connection NG


               [Push back to go to menu]
```

- TMC tuner error rate check is perfomed in this item.
  Default frequerey is 87.5MHz.
  After checking 500 block, if the error occurs less than 10%, the test results is "OK".
- Use [AV] key to go back to the main menu.

4. Testing for Services

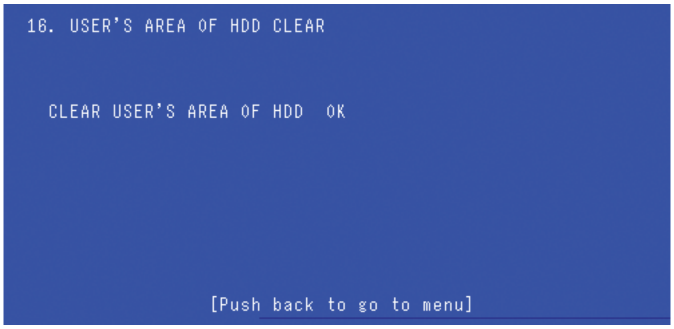
4-16. Clearing of all HDD user region

※Sensor Study will not be cleared in this test.



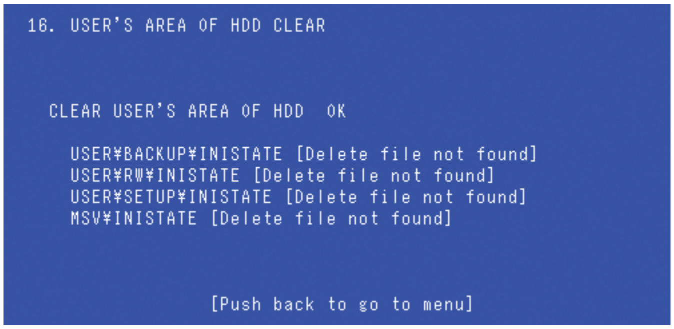
```
16. USER'S AREA OF HDD CLEAR

Push POS The following items are executed. Is it good?

  CLEAR USER'S AREA OF HDD



               [Push back to go to menu]
```

- Push "MAP" key, and clearing will be started.
- Clear HDD user data region. (MSV, USER \ RW, USER \ RW \ HOLD, USER \ SETUP, USER \ BACKUP will be cleared.)
- After the testing screen is displayed, use [MAP] key to carry out the steps above.



```
16. USER'S AREA OF HDD CLEAR


  CLEAR USER'S AREA OF HDD  OK



               [Push back to go to menu]
```

- After the execution of clearing, the screen above will be displayed.
- Use [AV] key to go back to the menu screen.



```
16. USER'S AREA OF HDD CLEAR


  CLEAR USER'S AREA OF HDD  OK

    USER¥BACKUP¥INISTATE [Delete file not found]
    USER¥RW¥INISTATE [Delete file not found]
    USER¥SETUP¥INISTATE [Delete file not found]
    MSV¥INISTATE [Delete file not found]



                   [Push back to go to menu]
```

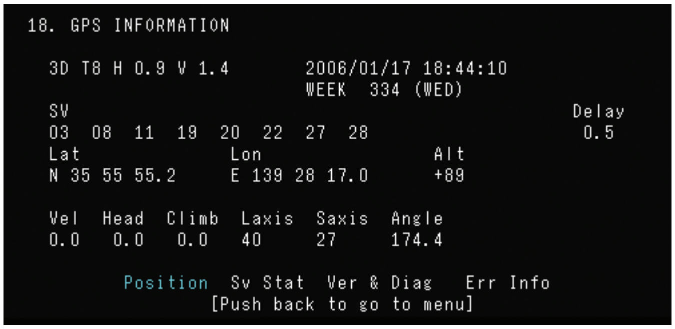
- Once HDD user area is cleared, no folders exist until the next restart and no folders to be deleted are found. Then the results above will be displayed.
- Although there are no files to be deleted, processing is completed normally.

<HDD user region clearing Error list> Shown below are errors that occur when clearing HDD user region.	
Displayed errors	Error factors
Delete file not found	When no files or directory to be deleted are found, this will be displayed. However, this is not an error as HDD has no files to delete.
Atapi device error	When something is wrong with the device, this will be displayed.
CRC error, UnCorrectable error	When it fails in reading and writing data, this will be displayed.
It failed to find Drive.	When no drive is specified or HDD driver cannot be opened, this will be displayed.
Drive format error	When format command is not executed successfully, this will be displayed.
Error	This will be displayed in the case of errors other than those mentioned above.

4-17. Image RGB

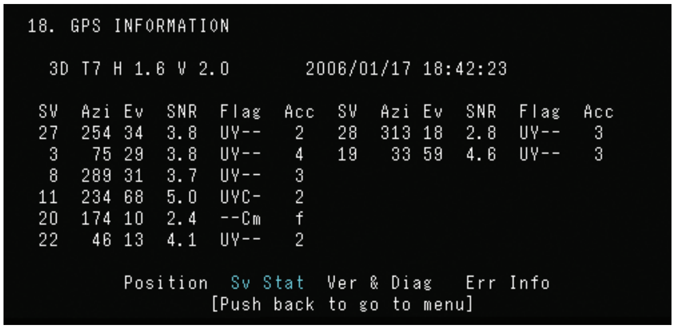
- Perform a bridge test on RGB.
- Switch screens using [←] [→] keys.
- Make drawings by following the pattern of R100% →G100% →B100% →W(WHITE)100%.
- 4 windows will be displayed in total. Normally no characters are displayed.
- The rear monitor will have the same screen.
- Use [AV] key to go back to the menu screen.

4-18. GPS information



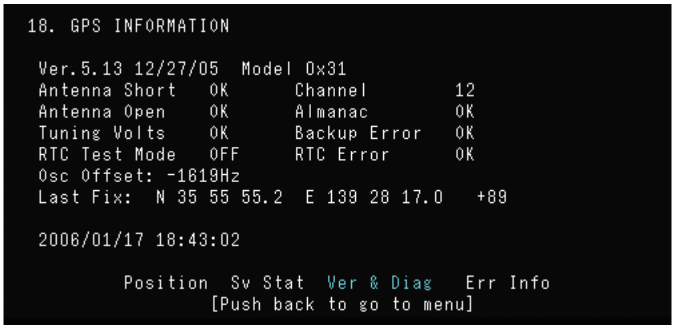
```
18. GPS INFORMATION

  3D T8 H 0.9 V 1.4       2006/01/17 18:44:10
                          WEEK  334 (WED)
  SV                                          Delay
  03  08  11  19  20  22  27  28               0.5
  Lat              Lon              Alt
  N 35 55 55.2     E 139 28 17.0    +89

  Vel  Head  Climb  Laxis  Saxis  Angle
  0.0   0.0   0.0   40     27     174.4

         Position  Sv Stat  Ver & Diag   Err Info
                [Push back to go to menu]
```

- Push [MENU] key with the cursor at "Position", "GPS information" will appear.



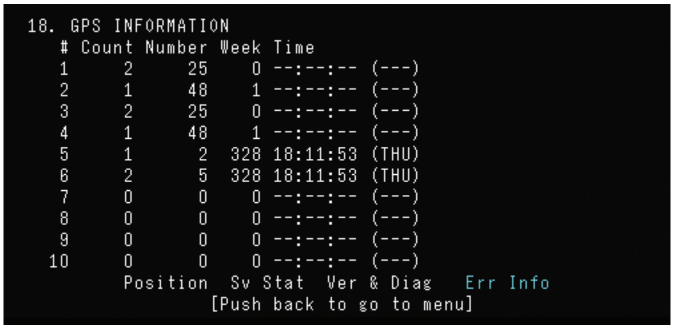
```
18. GPS INFORMATION

  3D T7 H 1.6 V 2.0       2006/01/17 18:42:23

 SV  Azi Ev  SNR  Flag  Acc  SV  Azi Ev  SNR  Flag  Acc
 27  254 34  3.8  UY--   2   28  313 18  2.8  UY--   3
  3   75 29  3.8  UY--   4   19   33 59  4.6  UY--   3
  8  289 31  3.7  UY--   3
 11  234 68  5.0  UYC-   2
 20  174 10  2.4  --Cm   f
 22   46 13  4.1  UY--   2

          Position  Sv Stat  Ver & Diag   Err Info
                  [Push back to go to menu]
```

- Push [MENU] key with the cursor at "Sv Stat", "Status information" will be displayed.
- When this item is selected, this screen will be displayed by default.



```
18. GPS INFORMATION

 Ver.5.13 12/27/05  Model 0x31
 Antenna Short   OK      Channel        12
 Antenna Open    OK      Almanac        OK
 Tuning Volts    OK      Backup Error   OK
 RTC Test Mode   OFF     RTC Error      OK
 Osc Offset: -1619Hz
 Last Fix:  N 35 55 55.2  E 139 28 17.0   +89

 2006/01/17 18:43:02

          Position  Sv Stat  Ver & Diag   Err Info
                  [Push back to go to menu]
```

- Push [MENU] key with the cursor at "Ver & Diag", "Diag information" will be displayed.



```
18. GPS INFORMATION
   # Count Number Week Time
   1     2     25    0 --:--:-- (---)
   2     1     48    1 --:--:-- (---)
   3     2     25    0 --:--:-- (---)
   4     1     48    1 --:--:-- (---)
   5     1      2  328 18:11:53 (THU)
   6     2      5  328 18:11:53 (THU)
   7     0      0    0 --:--:-- (---)
   8     0      0    0 --:--:-- (---)
   9     0      0    0 --:--:-- (---)
  10     0      0    0 --:--:-- (---)
          Position  Sv Stat  Ver & Diag   Err Info
                  [Push back to go to menu]
```

- Push [MENU] key with the cursor at "Err Info", "Error information" will be displayed.

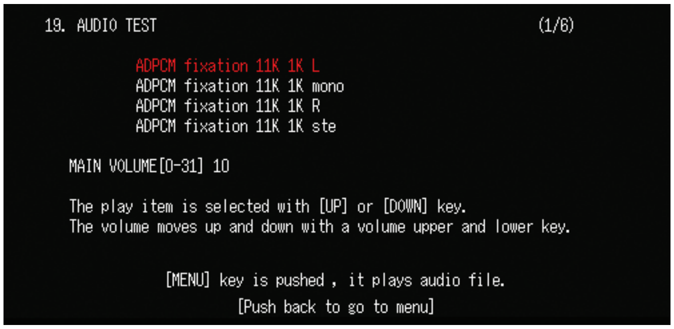
<Error List>

Screen names for each error message	Displayed messages	Error details
Position	GET_POS_ERROR	Data is invalid. GPS is unconnected.
	GET_TIME 2_ERROR	GPS is unconnected. Command error
Sv Stat	GET_POS_ERROR	Data is invalid. GPS is unconnected.
	GET_TIME 2_ERROR	GPS is unconnected. Command error
	GET_SV_STATUS 2_ERROR	GPS is unconnected. Command error
Ver&Diag	GET_VERS_ERROR	GPS is unconnected. Command error
	GET_DIAG_ERROR	GPS is unconnected. Command error
	GET_TIME 2_ERROR	GPS is unconnected. Command error
Err Info	GET_ERR_ERROR	GPS is unconnected.

<Error details>	
Error details	Error factors
GPS unconnected	When communication between the navigation system and GPS unit is not established for some reason, this will be displayed. This can be mainly because something is wrong with the hardware. Something can be wrong with the navigation system itself, serial interface (including poor serial connection), and GPS unit.
Command error	When no API response is returned from GPS unit, this will be displayed. Following incidents can be causes for it. ・Timeout occurs just because something is wrong with serial interface (poor contact), or data gets garbled and looks like another response. ・When a response different from the requested API is returned because of malfunction of GPS unit and another request for API is already requested, the time-out response to the first request is determined to be incorrect one. ・Navigation system performs so slow that it cannot handle the response within the time limit even though a response is returned from GPS unit, or GPS unit cannot handle the same kind of situation within the time limit. (The time limit is 1.5 sec.) ・Others
Invalid error	When connection to GPS unit is established, however, routine communication cannot be received for some reason, this will be displayed. Following incidents can be causes for it. ・After confirming the connection, GPS unit is reset before routine communication is started. ・Connection is only confirmed when serial contact is poor. ・Others

4-19. Sound Reproduction Test

Sound file selecting screen



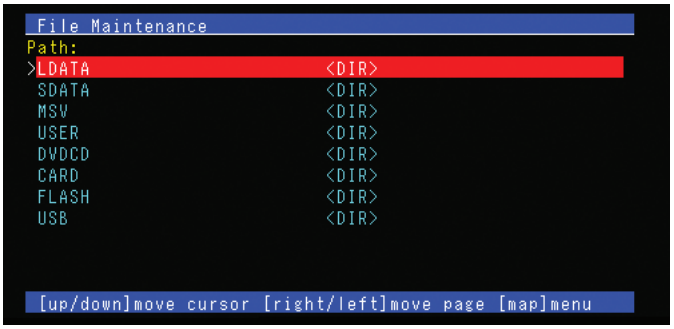
```
19. AUDIO TEST                                (1/6)

        ADPCM fixation 11K 1K L
        ADPCM fixation 11K 1K mono
        ADPCM fixation 11K 1K R
        ADPCM fixation 11K 1K ste

  MAIN VOLUME[0-31] 10

  The play item is selected with [UP] or [DOWN] key.
  The volume moves up and down with a volume upper and lower key.

          [MENU] key is pushed , it plays audio file.
                [Push back to go to menu]
```

- Sound file can be reproduced.
- Use [←] [→] key to change the volume.
- Use [MENU] key to reproduce the selected sound.
- When sound reproduction stops, use [AV] key to go back to the menu screen.

<Sound File List>

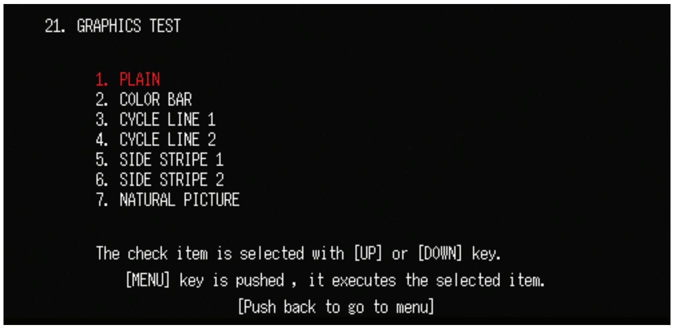
File identification	File contents
ADPCM fixation 11K 1K L	1KHz sine-wave sampled at 11KHz is reproduced. Sounds are output only from L side (Mobile phone side)
ADPCM fixation 11K 1K mono	1KHz sine-wave sampled at 11KHz is reproduced. Sounds are output in mono mode.
ADPCM fixation 11K 1K R	1KHz sine-wave sampled at 11KHz is reproduced. Sounds are output only from R side (Speaker)
ADPCM fixation 11K 1K ste	1KHz sine-wave sampled at 11KHz is reproduced. Sounds are output in stereo.
ADPCM fixation 19K 1K L	1KHz sine-wave sampled at 19KHz is reproduced. Sounds are output only from L side (Mobile phone side)
ADPCM fixation 19K 1K mono	1KHz sine-wave sampled at 19KHz is reproduced. Sounds are output in mono.
ADPCM fixation 19K 1K R	1KHz sine-wave sampled at 19KHz is reproduced. Sounds are output only from R side (Speaker side).
ADPCM fixation 19K 1K ste	1KHz sine-wave sampled at 19KHz is reproduced. Sounds are output in stereo.
ADPCM fixation 22K 1K L	1KHz sine-wave sampled at22KHz is reproduced. Sounds are output only from L side (Mobile phone).
ADPCM fixation 22K 1K mono	1KHz sine-wave sampled at22KHz is reproduced. Sounds are output only in mono.
ADPCM fixation 22K 1K R	1KHz sine-wave sampled at22KHz is reproduced. Sounds are output only from R side (Speaker side).
ADPCM fixation 22K 1K ste	1KHz sine-wave sampled at22KHz is reproduced. Sounds are output in stereo.
mono fixation 11K music	A music file sampled at 11KHz is reproduced. Sounds are output in mono.
mono fixation 19K music	A music file sampled at 19KHz is reproduced. Sounds are output in mono.
mono fixation 22K music	A music file sampled at22KHz is reproduced. Sounds are output in mono.
mono fixation 11K narration	Narration sampled at 11KHz is reproduced. Sounds are output in mono.
mono fixation 19K narration	Narration sampled at 19KHz is reproduced. Sounds are output in mono.
mono fixation 22K narration	Narration sampled at22KHz is reproduced. Sounds are output in mono.
ste 11K music	A music file sampled at 11KHz is reproduced. Sounds are output in stereo.
ste 19K music	A music file sampled at 19KHz is reproduced. Sounds are output in stereo.
ste 22K music	A music file sampled at22KHz is reproduced. Sounds are output in stereo.
ste 11K narration	Narration sampled at 11KHz is reproduced. Sounds are output in stereo.
ste 19K narration	Narration sampled at 19KHz is reproduced. Sounds are output in stereo.
ste 22K narration	Narration sampled at22KHz is reproduced. Sounds are output in stereo.

4-20. File Maintenance



```
File Maintenance
Path:
>LDATA                     <DIR>
 SDATA                     <DIR>
 MSV                       <DIR>
 USER                      <DIR>
 DVDCD                     <DIR>
 CARD                      <DIR>
 FLASH                     <DIR>
 USB                       <DIR>

 [up/down]move cursor [right/left]move page [map]menu
```

4-21. Graphics Test



```
21. GRAPHICS TEST

    1. PLAIN
    2. COLOR BAR
    3. CYCLE LINE 1
    4. CYCLE LINE 2
    5. SIDE STRIPE 1
    6. SIDE STRIPE 2
    7. NATURAL PICTURE

    The check item is selected with [UP] or [DOWN] key.
       [MENU] key is pushed , it executes the selected item.
                [Push back to go to menu]
```

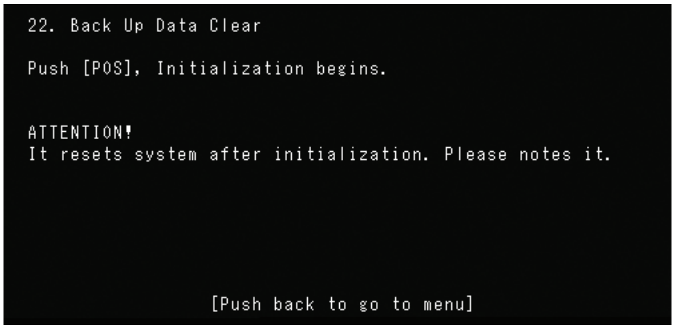
- Use [↑] [↓]keys to select patterns and [MENU] key to display images.
- Pattern

1. PLAIN
   ······· Use [←] [→] keys to display blue, red, pink, green, light blue, yellow, white and black.
2. COLOR BAR
   ······· Bars colored, white, yellow, light blue, green, pink, red, blue and black are displayed from left.
3. CYCLE LINE 1
4. CYCLE LINE 2
5. SIDE STRIPE 1
6. SIDE STRIPE 2
7. NATURAL PICTURE

- Use [AV] key to menu screen.

- Select "7. NATURAL PICTURE", the image above will be displayed.

4-22. Initialization of backup variables



```
22. Back Up Data Clear

Push [POS], Initialization begins.


ATTENTION!
It resets system after initialization. Please notes it.






                [Push back to go to menu]
```

- Initialize backup variables for system reset.
- After displaying the testing screen, use [MAP] key to execute the test.
- After initialization, restart the system.
- Use [AV] key to return to the menu screen.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

How to remove the case in the monitor area.

Be sure to remove the case from downside. It cannot be removed from the upper side.
Insert the smallest flathead screw driver of the precision screw drivers into under the 4 claws.
When inserting the screw driver into the clearance between the case (sheet metal) and the grille,
put it 45 degrees diagonally under the case to prevent it from touching the grille, then they will be easily loosened.

Cautions
- Be careful not to confuse screws.
- Before disassembling, make sure to remove the HDD Assembly exclusive for Service.
- The HDD Assembly (CXX2121 and CXX2122) exclusive for Service is a precision apparatus. So, handle it carefully and avoid shock and static electricity.

● Preparation for Removing the Monitor Assy

To remove the Monitor Assy block, it must always be moved to the OPEN position.

1. Rotate the gear using a screwdriver, etc. ([illegible]2.8 or smaller) from the slit on the bottom surface of the main unit (Fig.1) in the direction of the arrow, and move the Monitor Assy to OPEN position.

Note:
Though the gear is heavy, please turn carefully not to inflict too much force. Turning with excessive force may cause damage in the rack or gear in the driving section.

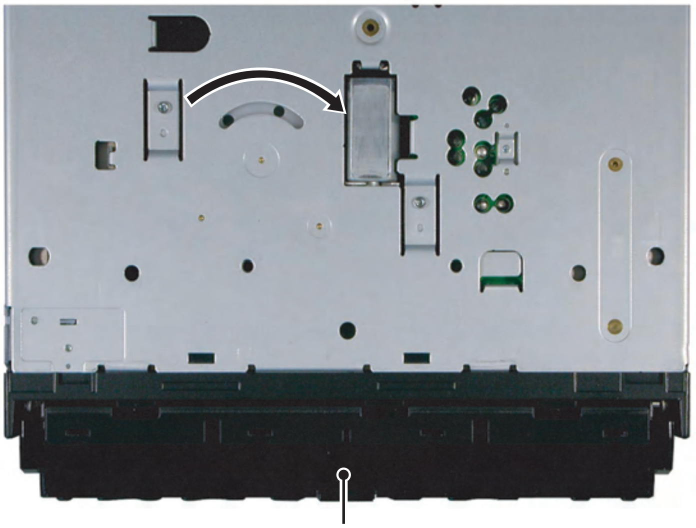


Fig.1

● Removing the Monitor Assy

1 Remove the two screws. (Fig.2)

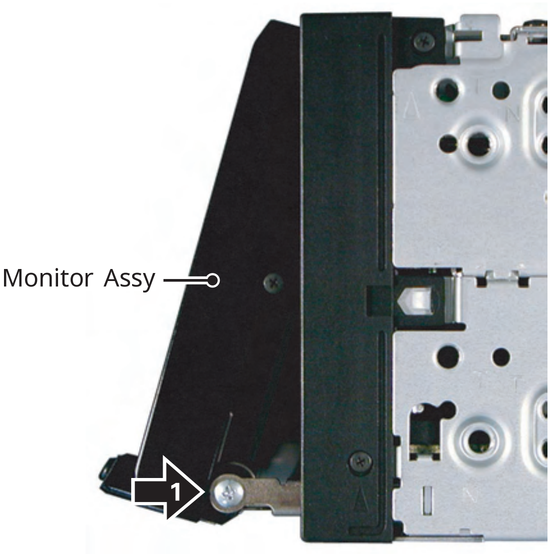


Fig.2

(2) Remove the screw to remove the Cover.
Do not pull the connecting flexible cable. (Fig.3)

(3) Remove the flexible cable from the connector to remove the Monitor Assy. Push the lid of the connector up with the top of precision screwdriver (minus) and then remove the Monitor Assy. Take a due care not to pull the connector forcedly or break it open because it is easy to be damaged. And also, use the precision screwdriver in the same way in the installation. (Fig.3)

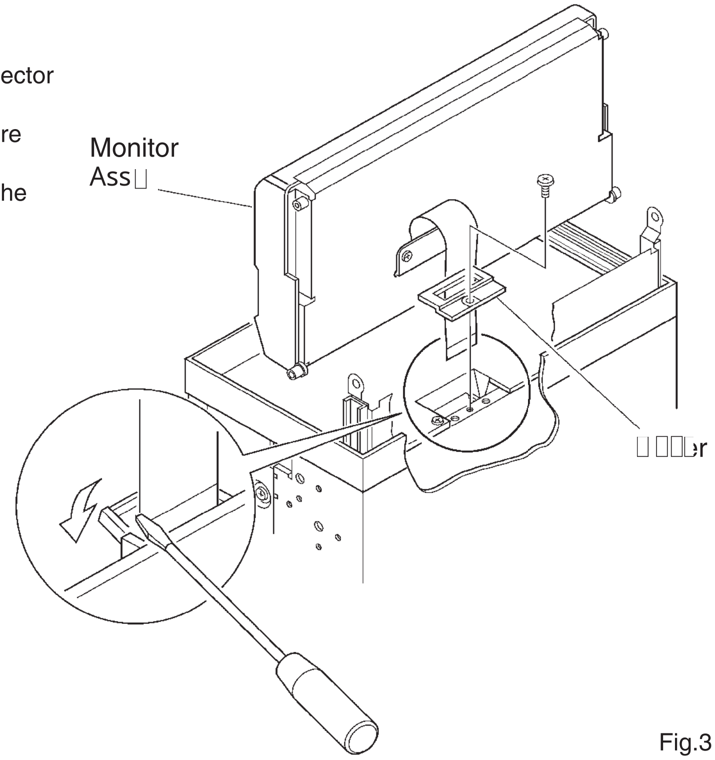
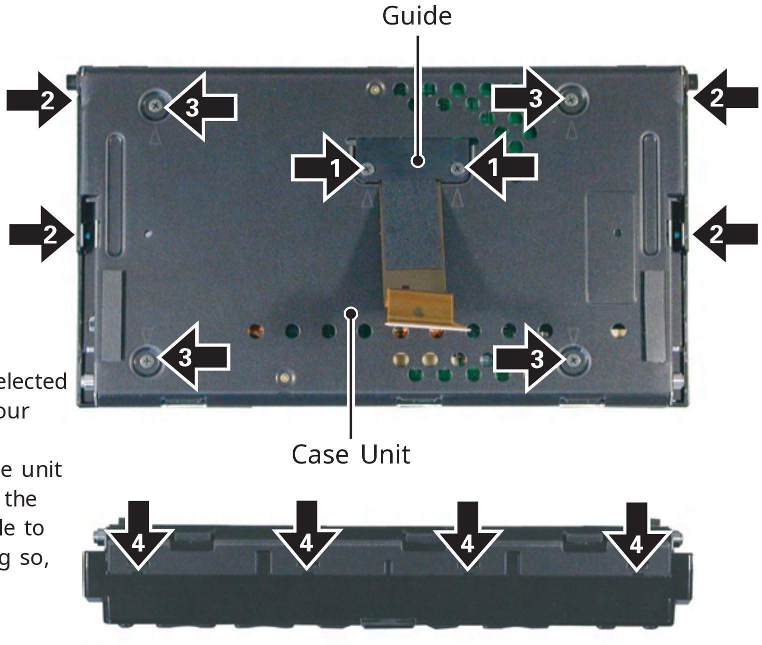


Fig.3

● Removing the Case Unit (Fig.4)

1. Remove the two screws and then remove the Guide.
2. Remove the four screws.
3. Remove the five screws and then remove the Case Unit.
4. Insert a flat screwdriver (2mm in width) selected among precision-type screwdrivers into four tabs shown below. When inserting the screwdriver into the gap between the case unit and the grill, push the screwdriver toward the case unit approximately at 45 degree angle to avoid it from contacting the grill. By doing so, you can open the unit easily.



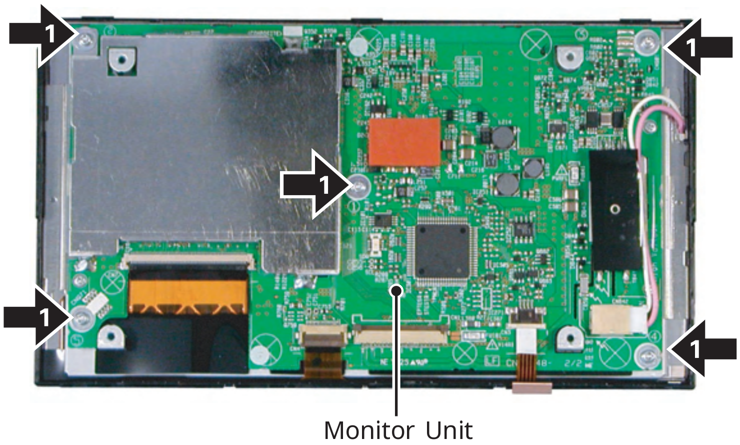
Caution:
When assembling the case unit, be careful not to nip (damage) the touch-panel’s tail (left side) and FFC with back of the case.

Fig. 4

● Removing the Monitor Unit (Fig.5)

1. Remove the five screws.

Disconnect the connector and then remove the Monitor Unit.



About handling of touch panel
When replacing the touch panel (hereafter, "panel") located below the LCD panel, pay attention to the following.

- The panel is made of glass. So, be careful not to break or damage it.
- Do not leave your fingerprints on the panel display.
- The four sides and corners of the glass panel are sharp. So, handle it carefully to avoid any injury

Fig.5

● Removing the DVD Mechanism Module (Fig.6)

1 Remove the four screws.

Disconnect the connector and then remove the DVD Mechanism Module.

Caution:
When assembling or disassembling the DVD mechanism module, be sure to hold the external side.
When lifting the DVD mechanism module, lift it from the front side to avoid a burden on the connected connector.

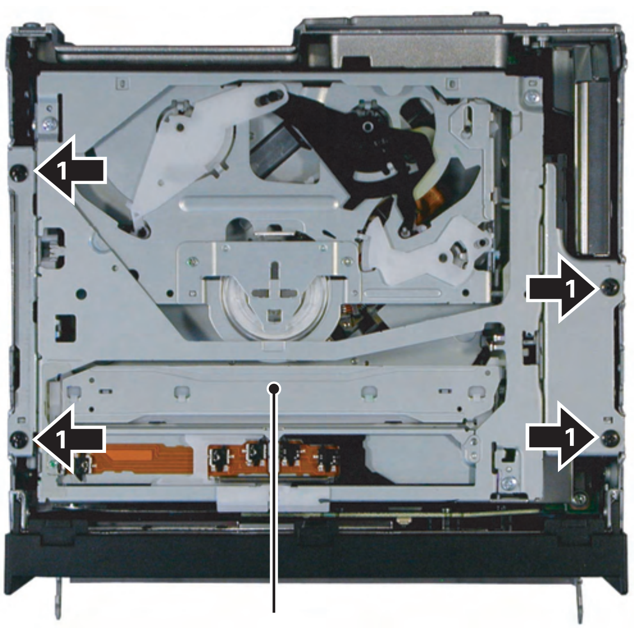


Fig. 6

● Removing the Panel Unit (Fig.7)

1 Remove the screw.

2 Remove the two screws.

3 Remove the four screws and then remove the Panel Unit.

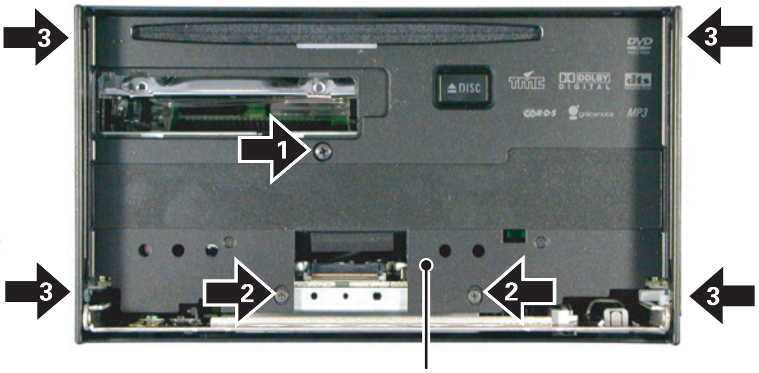


Fig. 7

● Removing the Heat Sink (Fig.8)

1 Remove the two screws.

2 Remove the eleven screws.

Disconnect the connector and then remove the Heat Sink.

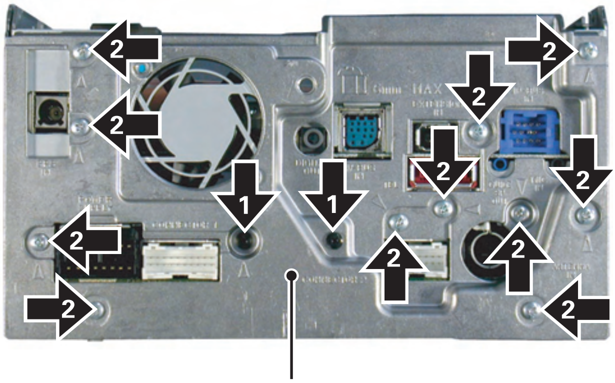


Fig. 8

Removing the Hard Disk Unit (Fig.9)

1. Insert tweezers into holes (four places) near the circumference of shield top surface, and lift the shield gradually with the tweezers.

1 Remove the four screws.

Disconnect the connector and then remove the Hard Disk Unit.

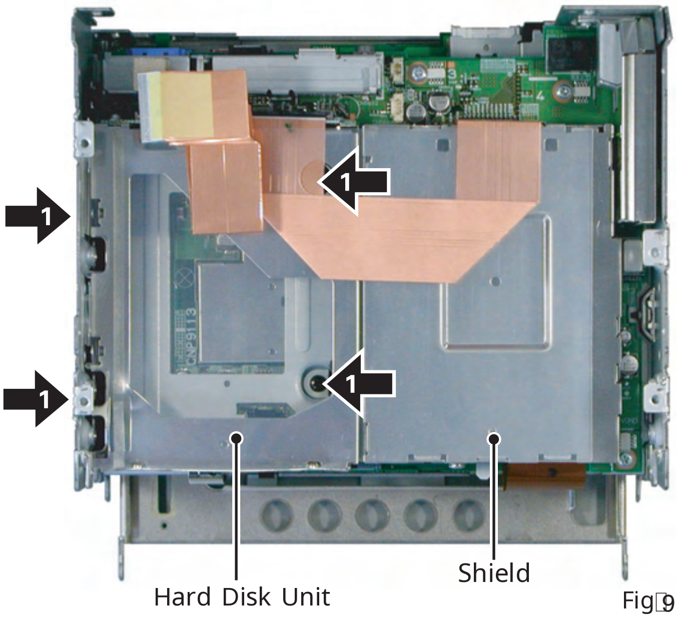

1
1
1
1
Hard Disk Unit
Shield

Fig.9

Removing the CC Unit (Fig.10)

1 Remove the three screws and then remove the CC Unit.

Removing the Navi Mother PCB (Fig.10)

2 Remove the screw.

3 Remove the six screws.

Disconnect the connector and then remove the Navi Mother PCB.

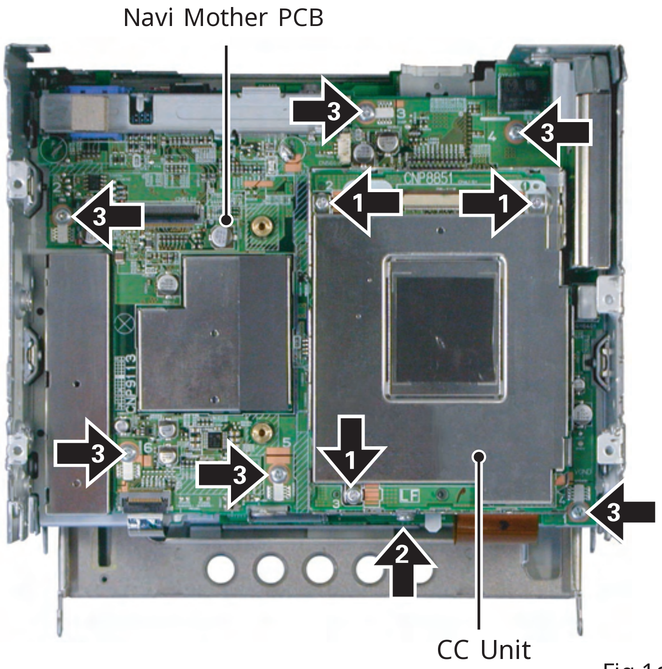

Navi Mother PCB
3
3
3
1
1
3
3
1
3
2
CC Unit

Fig.10

Removing the Chassis Unit (Fig.11)

1 Remove the three screws and then remove the Chassis Unit.

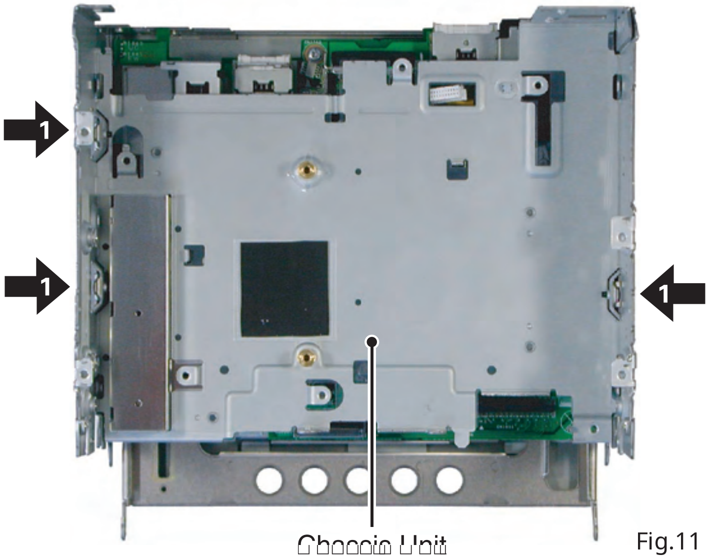

1
1
1
Chassis Unit

Fig.11

Removing the Audio Unit (Fig.12)

1 Remove the screw.

2 Straighten the tab at location indicated.

3 Remove the four screws and then remove the Audio Unit.

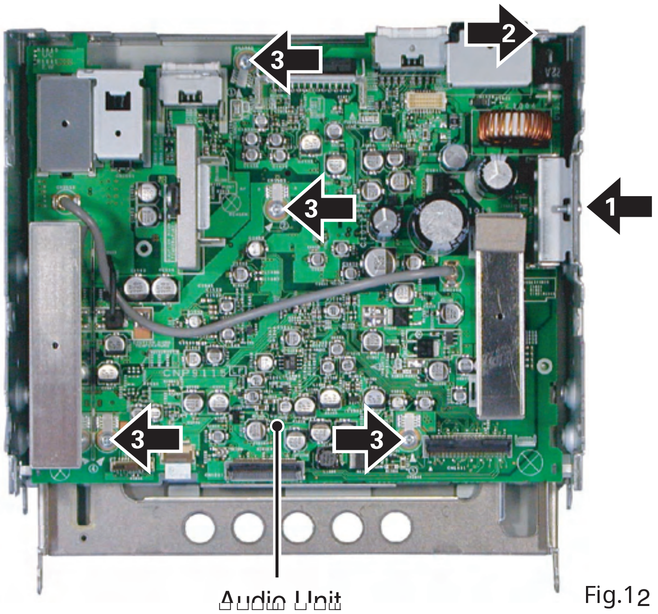

3
2
3
1
3
3
Audio Unit

Fig.12

Removing the Main PCB Unit (Fig.13)

1 Straighten the tabs at two locations indicated.

2 Remove the screw and then remove the Main PCB Unit.

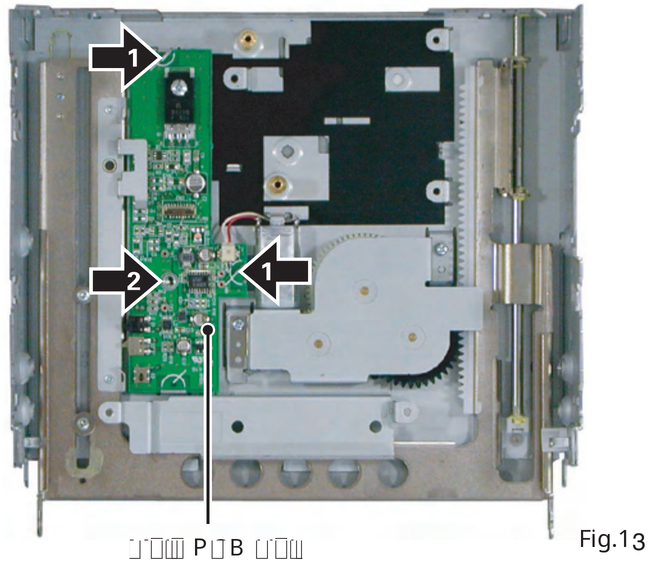
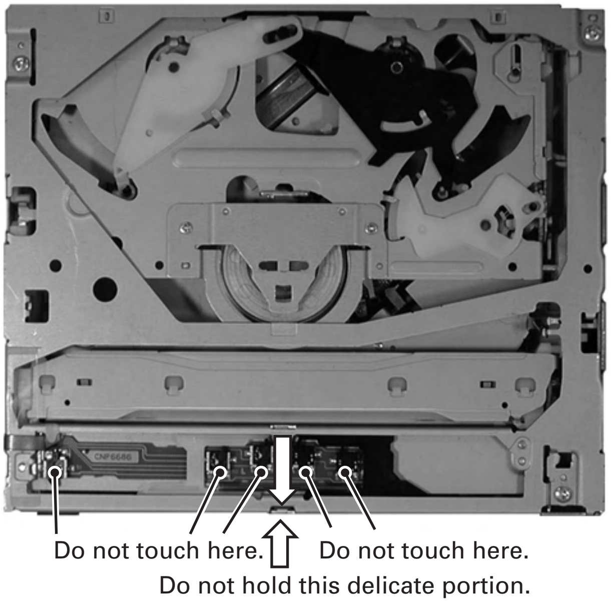

1
2
1
Main PCB Unit

Fig.13

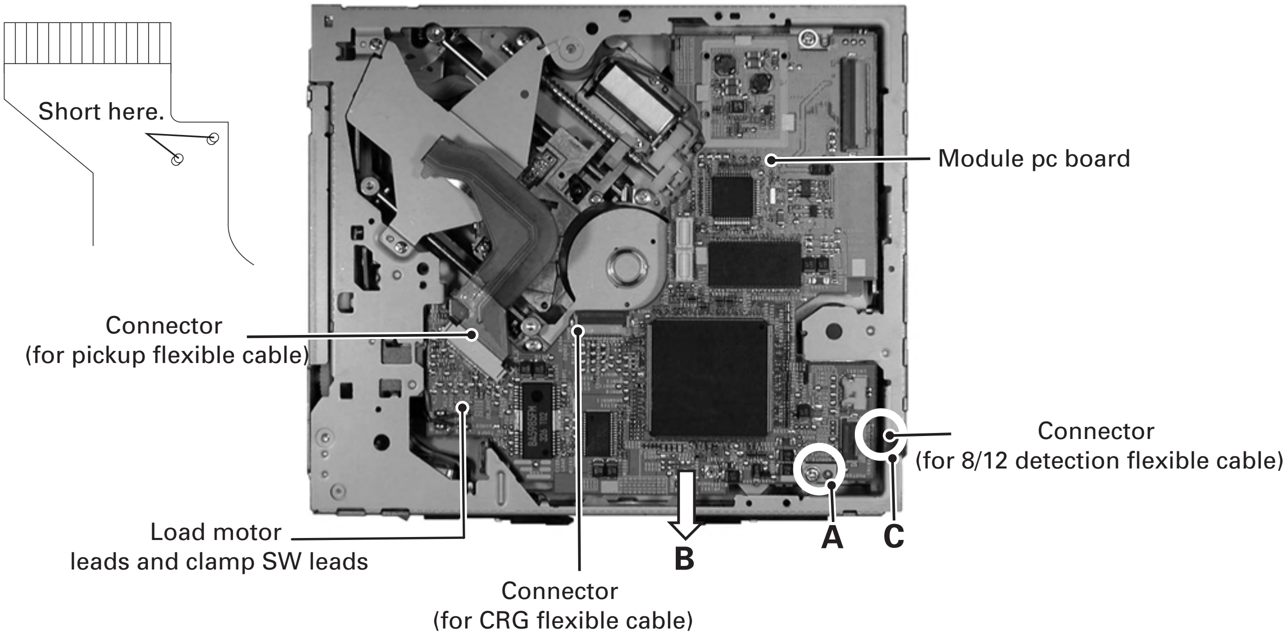
● Precautions on handling the mechanism module

1. Hold the upper and main frames.
2. Do not hold the front portion of the upper frame. It is a delicate part.
3. Do not touch the switches on the top panel.
4. Be careful not to catch the flexible cables.


CNP6686
Do not touch here.
Do not touch here.
Do not hold this delicate portion.

● Removing the module pc board

1. Set the mechanism to the lock position (disc load standby position).
2. Place the mechanism module upside down.
3. Short the two lands on the pickup flexible cable as shown below.
4. Be sure to disconnect the pickup flexible cable and the CRG flexible cable from the connectors to protect them from damages.
5. Remove solder from the load motor leads and clamp SW leads.
6. Loosen the two fixing screws. Lift the position A of the module pc board lightly and move it in the direction B to remove it. Be careful not to damage the flexible cable C.
7. Disconnect the 8/12 detection flexible-cable from the connector.

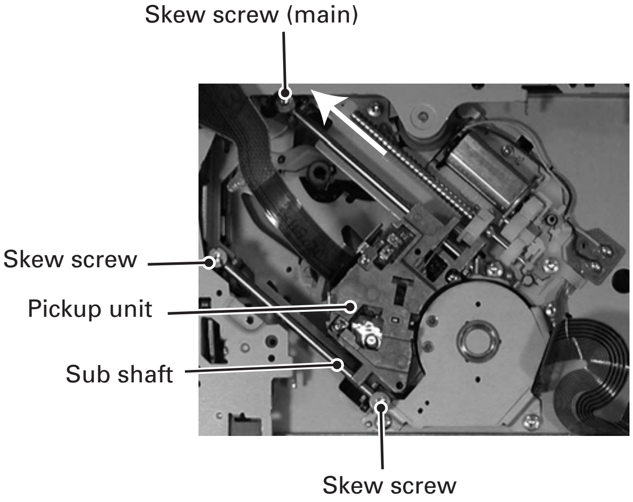

Short here.
Module pc board
Connector
(for pickup flexible cable)
Connector
(for 8/12 detection flexible cable)
Load motor
leads and clamp SW leads
B
A
C
Connector
(for CRG flexible cable)

● Removing the pickup unit

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board."
2. While holding the pickup case, remove the skew screw (main).
3. Lifting the end of the pickup rack, slide the main shaft, and remove the pickup unit.

Notes:

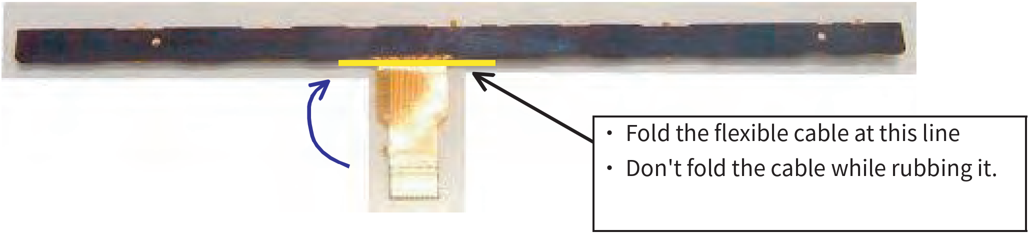
Replacing the pickup unit requires the skew adjustment.
Remove glue from both ends of the main and sub shafts, and skew stud.
Do not reuse the old skew screw. Be sure to use a brand-new skew screw supplied with a new pickup unit.
Fix the skew screw with glue (GYL1001) after adjustment.



Notice of Exchange the Keyboard unit

- Howe to fold the flexible cable

The Keyboard unit of the service parts is not folded.
Please see the following picture and fold the flexible cable at90 degrees.



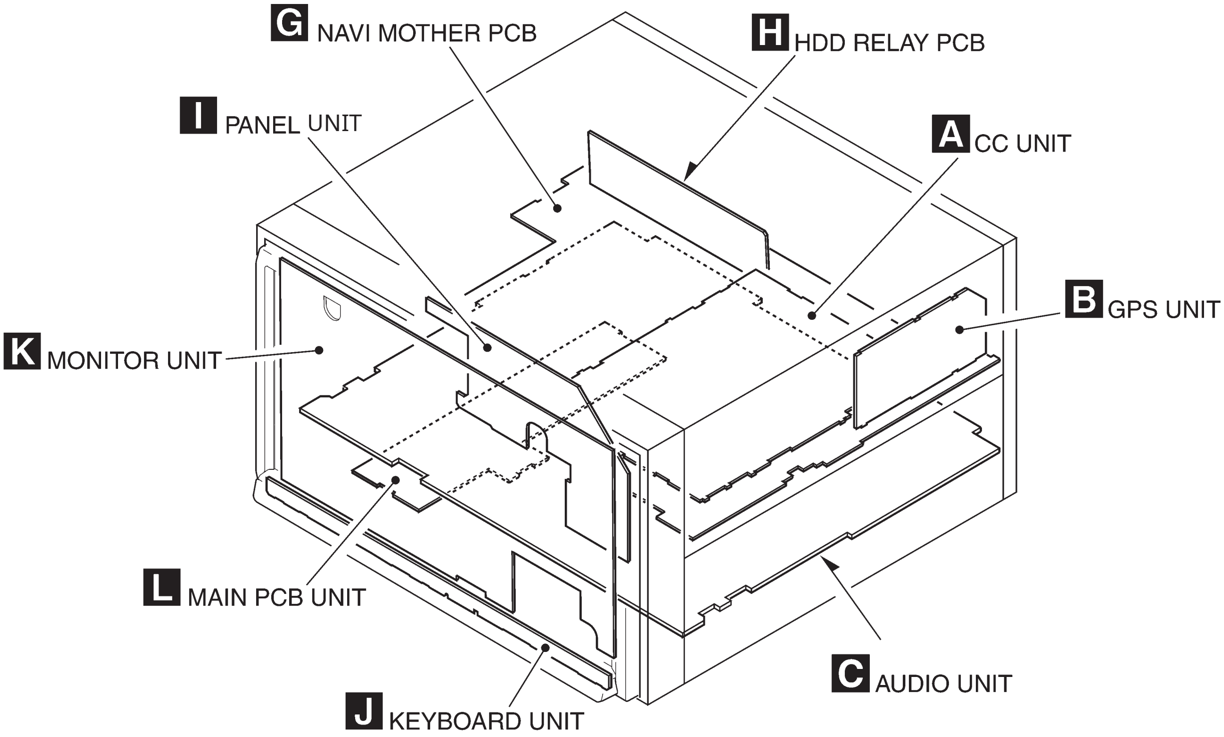
- Fold the flexible cable at this line
- Don't fold the cable while rubbing it.

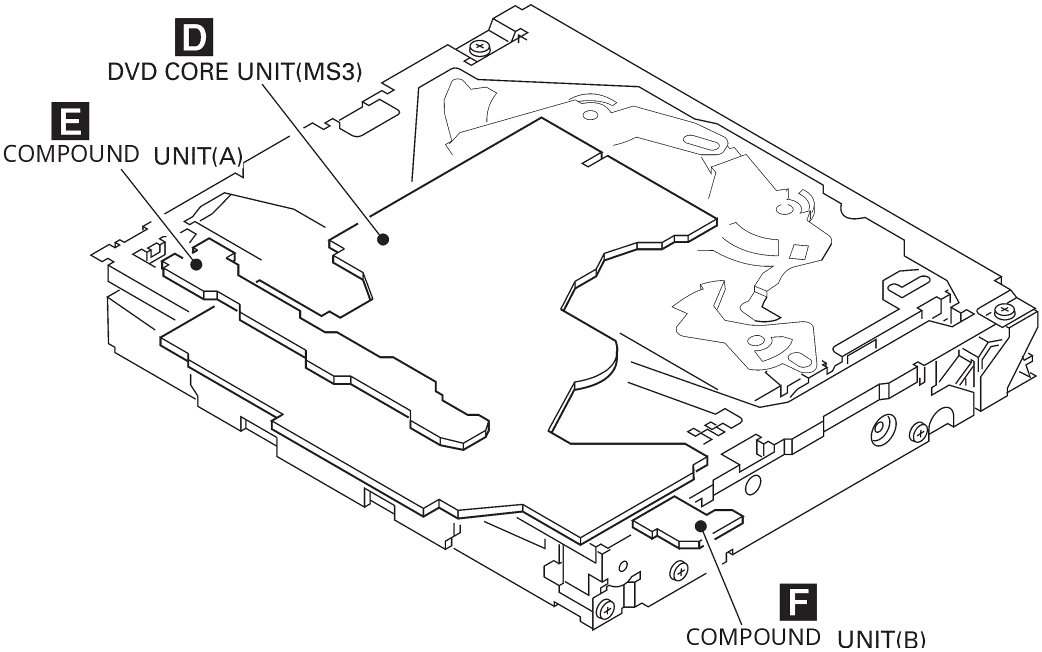
<Keyboard Unit>

Please check the following item after exchange the Keyboard unit

1 Lighting check of all LED device.
2 Operation check of the all switches.
3 Remote control receiver function check

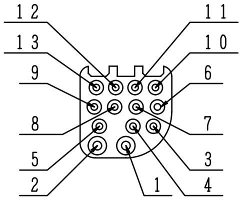
7.1.2 PCB LOCATIONS


G NAVI MOTHER PCB
H HDD RELAY PCB
I PANEL UNIT
A CC UNIT
B GPS UNIT
K MONITOR UNIT
L MAIN PCB UNIT
C AUDIO UNIT
J KEYBOARD UNIT


D
DVD CORE UNIT(MS3)
E
COMPOUND UNIT(A)
F
COMPOUND UNIT(B)

7.1.3 CONNECTOR FUNCTION DESCRIPTION

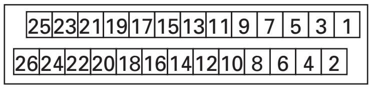
AV BUS


12
11
13
10
9
6
8
7
5
3
2
1
4

1 : VIDEO GND
2 : COMP VIDEO
3 : (REMPW)
4 : IP-SEL1
5 : IP-SEL2
6 : LED-V
7 : GND

8 : BEEP MUTE
9 : BEEP-
10 : REMOUT
11 : NEW AV SENS
12 : AV ON
13 : BEEP+

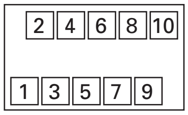
BLUETOOTH


25 23 21 19 17 15 13 11 9 7 5 3 1
26 24 22 20 18 16 14 12 10 8 6 4 2

1 : DT2-
2 : T-A
3 : R-A
4 : PDC/CDMA/FOMA
5 : AGND
6 : UNIT
7 : CD
8 : UNB/CC
9 : CNT1
10 : CNT2
11 : AVPL
12 : GNDL
13 : AVPR

14 : GNDR
15 : TCHC/
16 : /BA
17 : /CB
18 : /BB
19 : /CE
20 : /CJ
21 : NC
22 : SYNC CLOCK
23 :
24 :
25 :
26 : GND

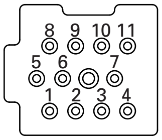
EXTENSION


2 4 6 8 10
1 3 5 7 9

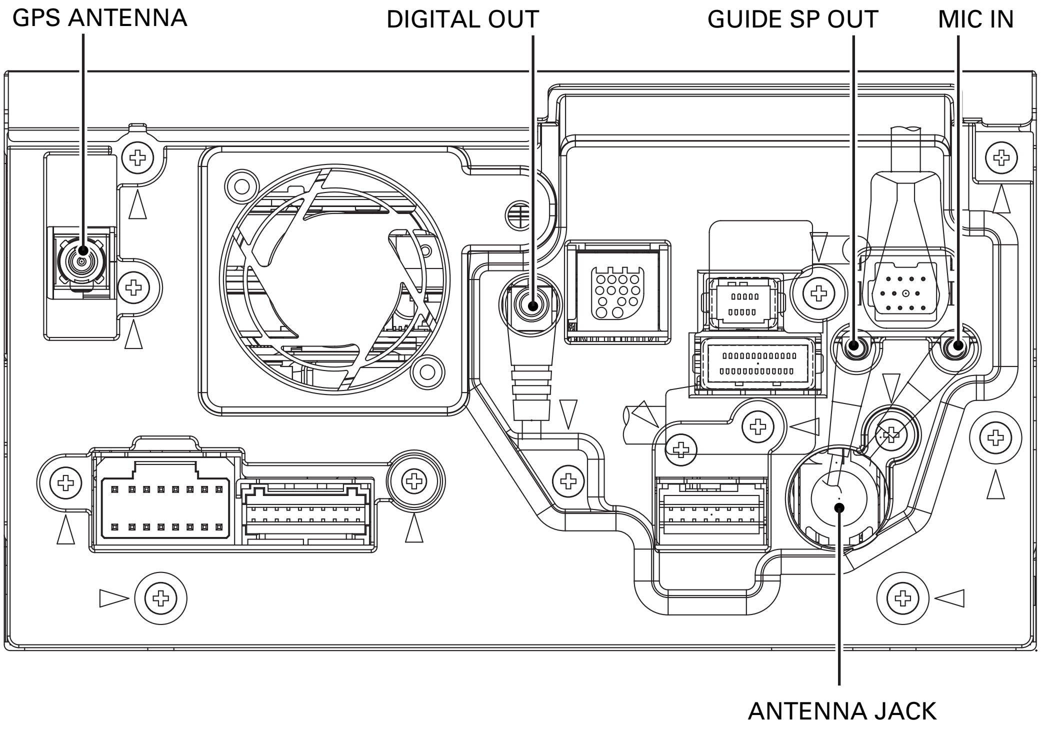
1 : GTOEX
2 : EXTOG
3 : GND
4 : CTOEX
5 : EXTOC

6 : HYOKA
7 : CTOTA
8 : TATOC
9 : VTA
10 : TAGND

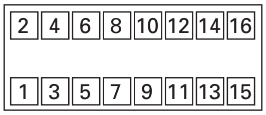
IP-BUS IN


8 9 10 11
5 6 7
1 2 3 4

1 : IPBUS+
2 : IPBUSG
3 : IPLG
4 : NC
5 : IPBUS-
6 : IPRG
7 : IPL+
8 : ASENBO
9 : IPR+
10 : IPR-
11 : IPL-


GPS ANTENNA
DIGITAL OUT
GUIDE SP OUT
MIC IN
ANTENNA JACK

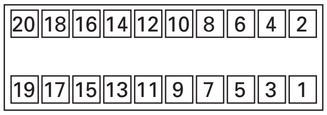
VEHICLE I/F


2 4 6 8 10 12 14 16
1 3 5 7 9 11 13 15

1 : BUP
2 : GND
3 : ILM
4 : ANT
5 : ACC
6 : SPEED
7 : REV
8 : PKB
9 : FL-
10 : RR-

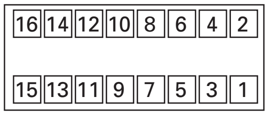
11 : FL+
12 : RR+
13 : FR-
14 : RL-
15 : FR+
16 : RL+

AV I/O


20 18 16 14 12 10 8 6 4 2
19 17 15 13 11 9 7 5 3 1

1 : POSWL
2 : GNDA
3 : POSWR
4 : GNDA
5 : RL
6 : GNDA
7 : RR
8 : GNDA
9 : FL
10 : GNDA

11 : FR
12 : GNDA
13 : VIN
14 : GNDV
15 : VTR_L
16 : GNDL
17 : VTR_R
18 : GNDR
19 : BREM
20 : TELMUTE


16 14 12 10 8 6 4 2
15 13 11 9 7 5 3 1

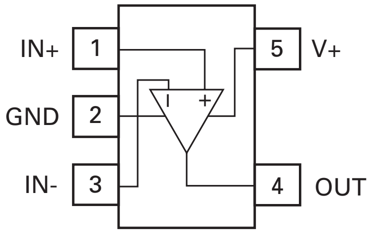
1 :
2 : NC
3 : NC
4 : NC
5 : GND
6 : WREM AN
7 : WREM SEL
8 : GUIDEON
9 : GNDA
10 : ROUT

11 : GNDA
12 : LOUT
13 : GNDV
14 : VOUT
15 : BCVGND
16 : BCV

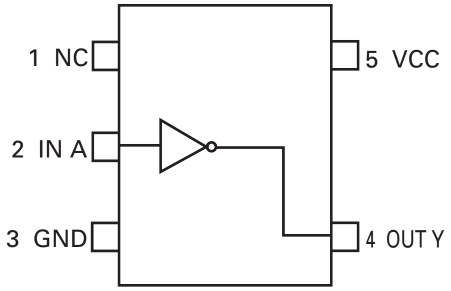
7.2 IC

NJM2730F
TC7SH04FUS1
TC7SH32FUS1
TC7PA53FU
TC7WH34FK
NJM2125F
TC74LCX244FTS1
K4S641632H-TC75
PD6527A
UPB1027GS
ADC12H034CIMSAS1
LC72720YVSS1
TK15405BMI
NJM2060V
BA00CC0WT
PAL007B
NJM2505F
BH7236AF
NJM3403AV
TPS2051AD
TC74VHC541FTS1
TC7SET04FUS1
HA12241FP
UPD4721GSS1
BD3931HFP
TC74VHC32FTS1
TC74VHCT125AFTS1
TC74VHC125FTS1
TC7WH14FU
BD5335FVE
TC74LCX245FTS1
TC7MZ245FK
LM56BIMM
TC74VHC04FTS1
S-1132B25-U5
S-1132B15-U5
TC7MBL3244AFK
BR93L56FJ-W
OZ964ISN

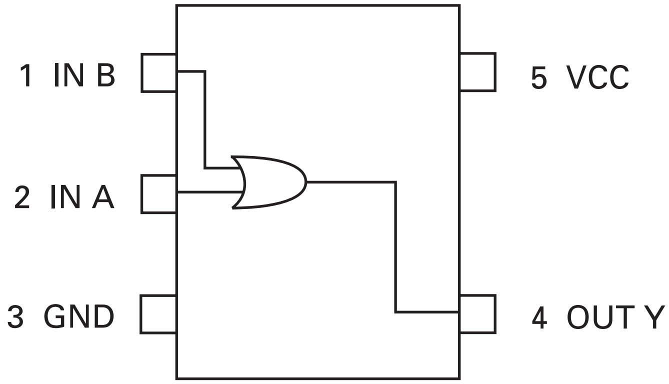
NJM2730F


IN+
1
GND
2
IN-
3
5
V+
4
OUT
-
+

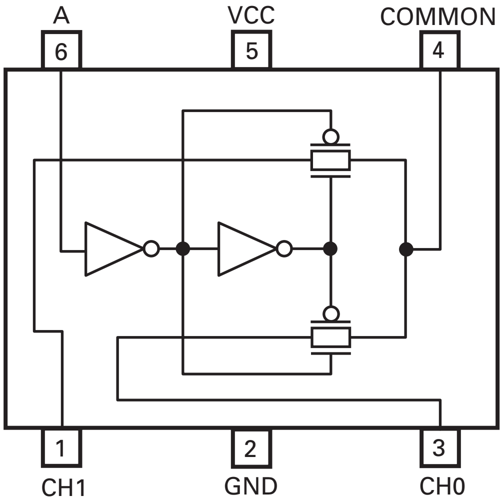
TC7SH04FUS1


1 NC
2 IN A
3 GND
5 VCC
4 OUT Y

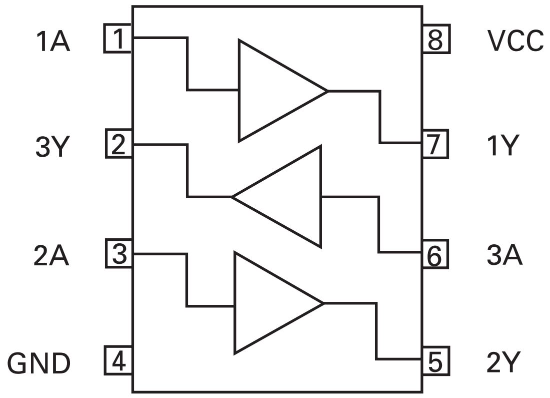
TC7SH32FUS1


1 IN B
2 IN A
3 GND
5 VCC
4 OUT Y

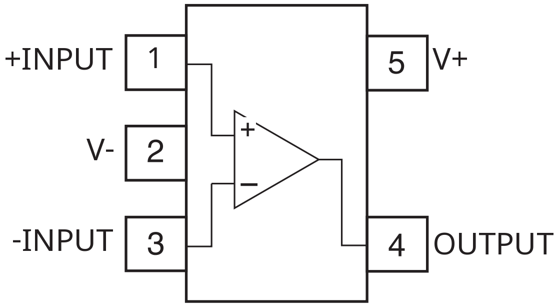
TC7PA53FU


A
6
VCC
5
COMMON
4
1
CH1
2
GND
3
CH0

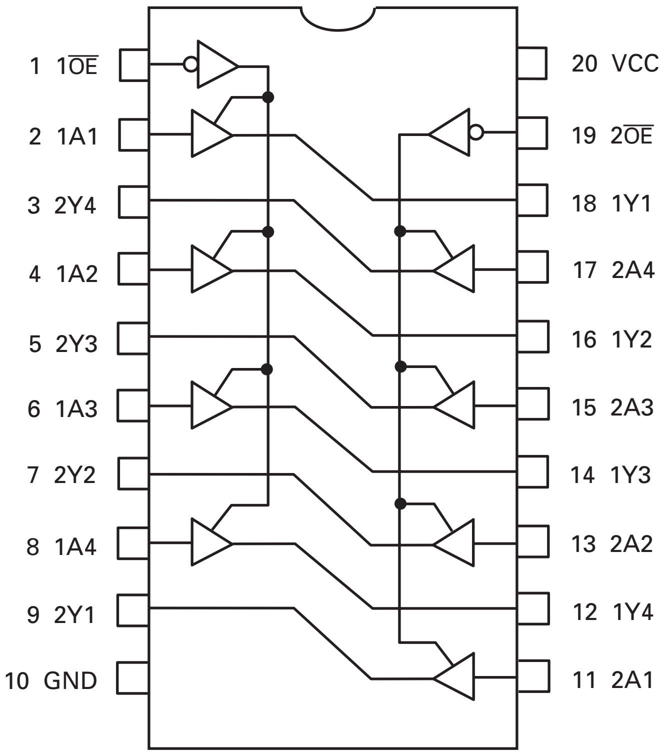
TC7WH34FK


1A
1
3Y
2
2A
3
GND
4
8
VCC
7
1Y
6
3A
5
2Y

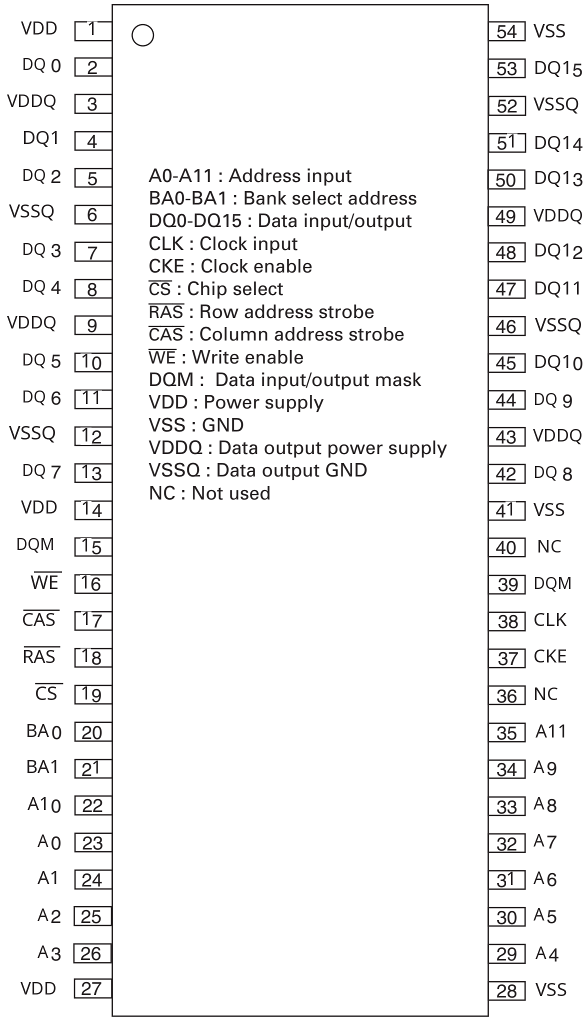
NJM2125F


+INPUT
1
V-
2
-INPUT
3
5
V+
4
OUTPUT
+
−

TC74LCX244FTS1

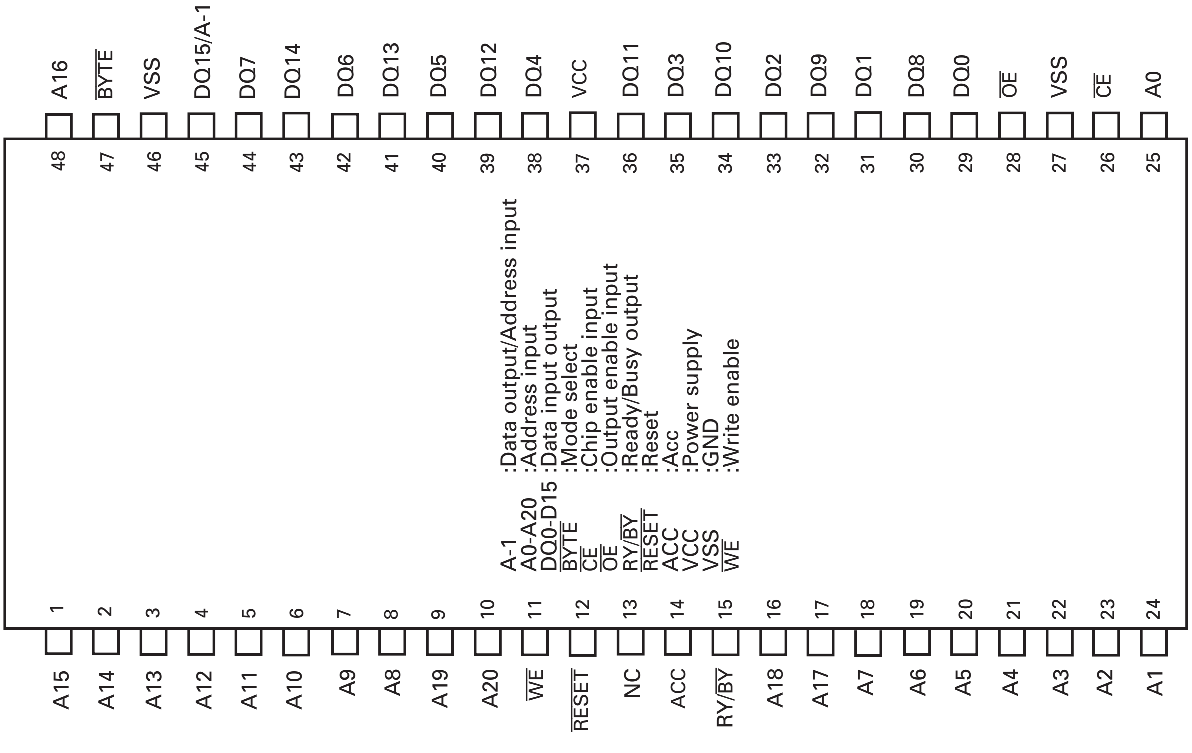

1 1OE
2 1A1
3 2Y4
4 1A2
5 2Y3
6 1A3
7 2Y2
8 1A4
9 2Y1
10 GND
20 VCC
19 2OE
18 1Y1
17 2A4
16 1Y2
15 2A3
14 1Y3
13 2A2
12 1Y4
11 2A1

K4S641632H-TC75


VDD 1
DQ0 2
VDDQ 3
DQ1 4
DQ2 5
VSSQ 6
DQ3 7
DQ4 8
VDDQ 9
DQ5 10
DQ6 11
VSSQ 12
DQ7 13
VDD 14
DQM 15
WE 16
CAS 17
RAS 18
CS 19
BA0 20
BA1 21
A10 22
A0 23
A1 24
A2 25
A3 26
VDD 27
54 VSS
53 DQ15
52 VSSQ
51 DQ14
50 DQ13
49 VDDQ
48 DQ12
47 DQ11
46 VSSQ
45 DQ10
44 DQ9
43 VDDQ
42 DQ8
41 VSS
40 NC
39 DQM
38 CLK
37 CKE
36 NC
35 A11
34 A9
33 A8
32 A7
31 A6
30 A5
29 A4
28 VSS

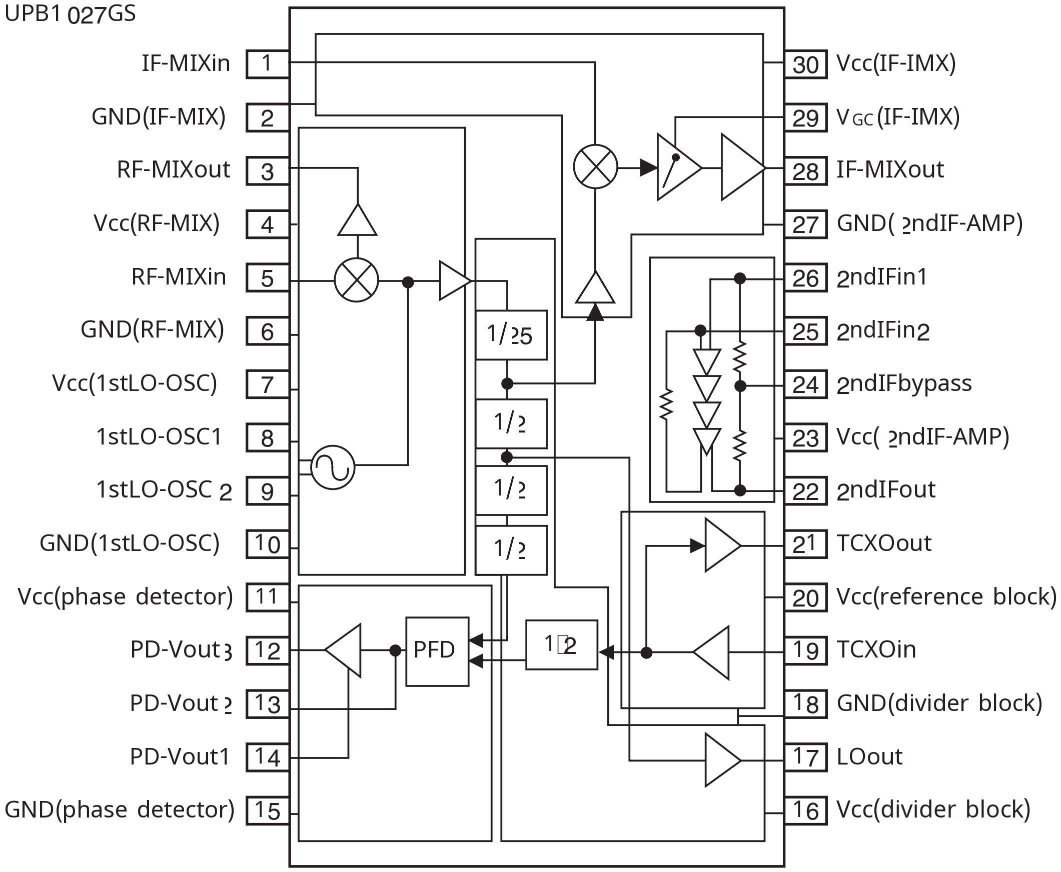
A0-A11 : Address input
BA0-BA1 : Bank select address
DQ0-DQ15 : Data input/output
CLK : Clock input
CKE : Clock enable
CS : Chip select
RAS : Row address strobe
CAS : Column address strobe
WE : Write enable
DQM : Data input/output mask
VDD : Power supply
VSS : GND
VDDQ : Data output power supply
VSSQ : Data output GND
NC : Not used

PD6527A

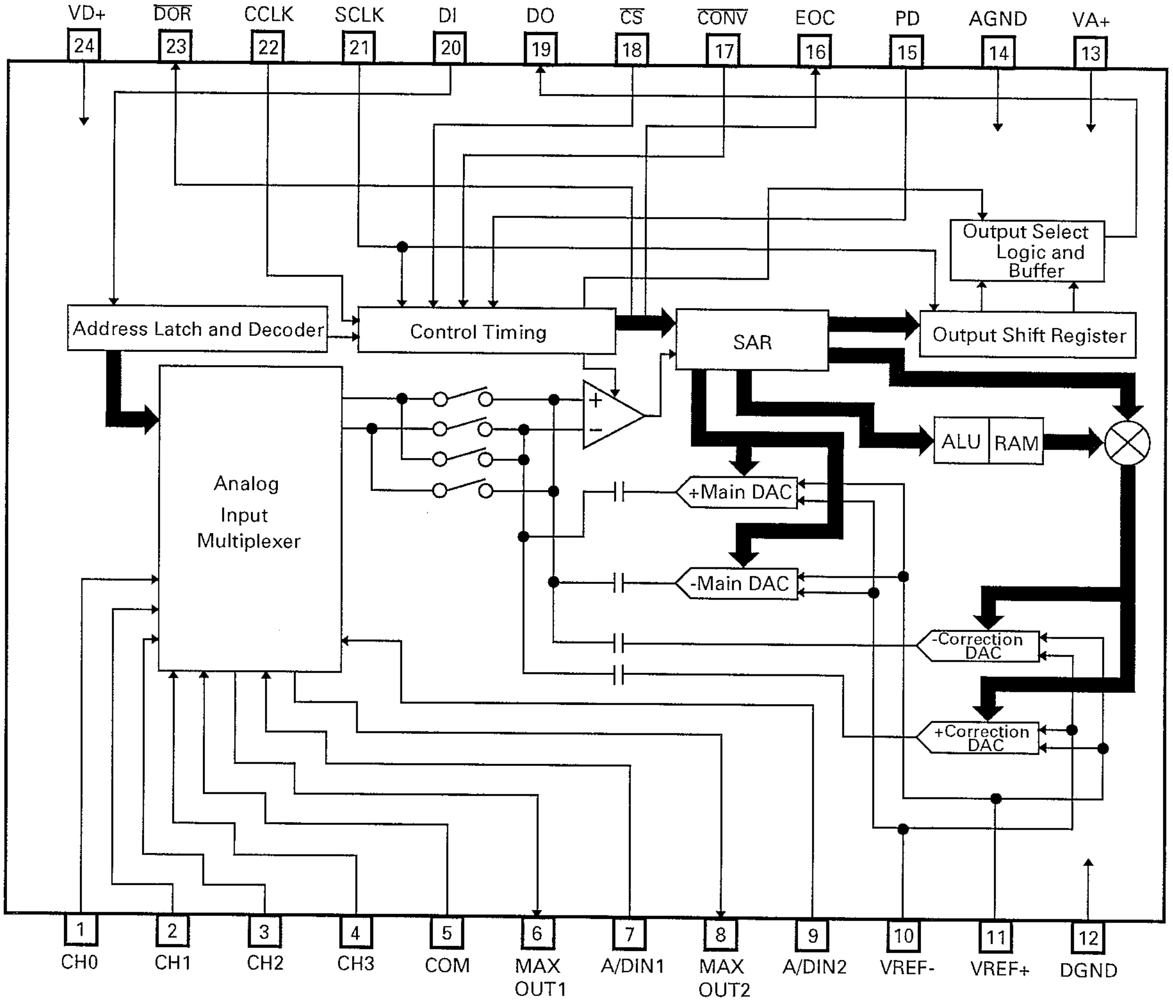

48 A16
47 BYTE
46 VSS
45 DQ15/A-1
44 DQ7
43 DQ14
42 DQ6
41 DQ13
40 DQ5
39 DQ12
38 DQ4
37 VCC
36 DQ11
35 DQ3
34 DQ10
33 DQ2
32 DQ9
31 DQ1
30 DQ8
29 DQ0
28 OE
27 VSS
26 CE
25 A0
1 A15
2 A14
3 A13
4 A12
5 A11
6 A10
7 A9
8 A8
9 A19
10 A20
11 WE
12 RESET
13 NC
14 ACC
15 RY/BY
16 A18
17 A17
18 A7
19 A6
20 A5
21 A4
22 A3
23 A2
24 A1

A-1 :Data output/Address input
A0-A20 :Address input
DQ0-D15 :Data input output
BYTE :Mode select
CE :Chip enable input
OE :Output enable input
RY/BY :Ready/Busy output
RESET :Reset
ACC :Acc
VCC :Power supply
VSS :GND
WE :Write enable

UPB1027GS


IF-MIXin 1
GND(IF-MIX) 2
RF-MIXout 3
Vcc(RF-MIX) 4
RF-MIXin 5
GND(RF-MIX) 6
Vcc(1stLO-OSC) 7
1stLO-OSC1 8
1stLO-OSC2 9
GND(1stLO-OSC) 10
Vcc(phase detector) 11
PD-Vout3 12
PD-Vout2 13
PD-Vout1 14
GND(phase detector) 15
30 Vcc(IF-IMX)
29 VGC(IF-IMX)
28 IF-MIXout
27 GND(2ndIF-AMP)
26 2ndIFin1
25 2ndIFin2
24 2ndIFbypass
23 Vcc(2ndIF-AMP)
22 2ndIFout
21 TCXOout
20 Vcc(reference block)
19 TCXOin
18 GND(divider block)
17 LOout
16 Vcc(divider block)
1/25
1/2
1/2
1/2
PFD
1/2

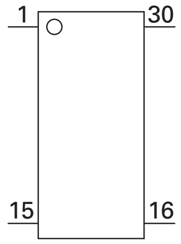
ADC12H034CIMSAS1


VD+ 24
DOR 23
CCLK 22
SCLK 21
DI 20
DO 19
CS 18
CONV 17
EOC 16
PD 15
AGND 14
VA+ 13
Output Select Logic and Buffer
Address Latch and Decoder
Control Timing
SAR
Output Shift Register
Analog Input Multiplexer
+
−
ALU
RAM
+Main DAC
-Main DAC
-Correction DAC
+Correction DAC
1 CH0
2 CH1
3 CH2
4 CH3
5 COM
6 MAX OUT1
7 A/DIN1
8 MAX OUT2
9 A/DIN2
10 VREF-
11 VREF+
12 DGND

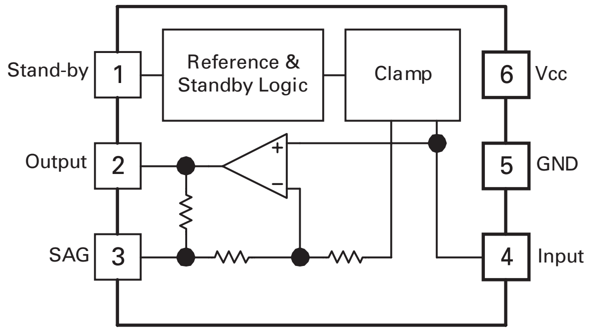
● Pin Functions(LC72720YVSS1)

Pin No.	Pin Name	I/O	Function and Operation
1	VREF	O	Reference voltage output
2	MPXIN	I	Base band (multiplexed) signal input
3	Vdda		Analog system power supply (+ 5 V)
4	NC		Not used
5	Vssa		Analog system GND
6	FLOUT	O	Sub carrier output (filter output)
7	CIN	I	Sub carrier input (comparator input)
8	NC		Not used
9	T1	I	Test input (connect to GND)
10	T2	I	Test input (stand-by control)
11	T3	O	RDS clock output
12	NC		Not used
13	T4	O	RDS data output
14	T5	O	Soft-decision control data output
15	XOUT	O	Crystal oscillator output
16	XIN	I	Crystal oscillator input
17	Vddd		Digital system power supply (+ 5 V)
18	Vssd		Digital system GND
19	NC		Not used
20	T6	O	Error status,regenerated carrier and error block count outputs
21	T7	O	Error correction status, SK detection and error block count outputs
22	SYNC	O	Block synchronization detection output
23	NC		Not used
24	RDS-ID	O	RDS detection output
25	DO	O	Data output
26	CL	I	Clock input
27	NC		Not used
28	DI	I	Data input
29	CE	I	Chip enable input
30	SYR	I	Synchronization and RAM address reset input

LC72720YVSS1

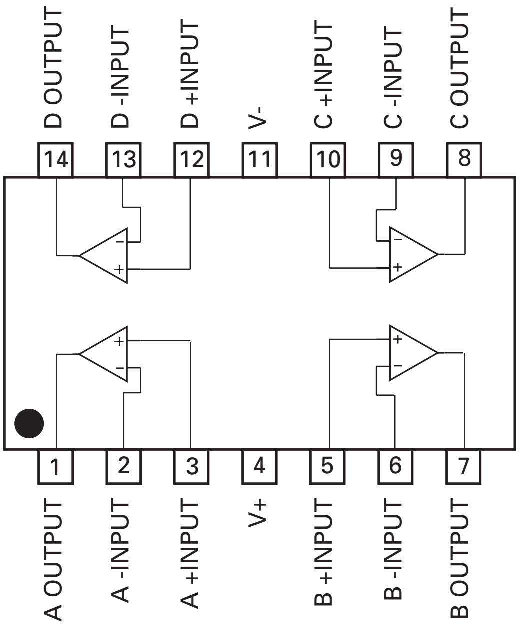


TK1 5405BMI



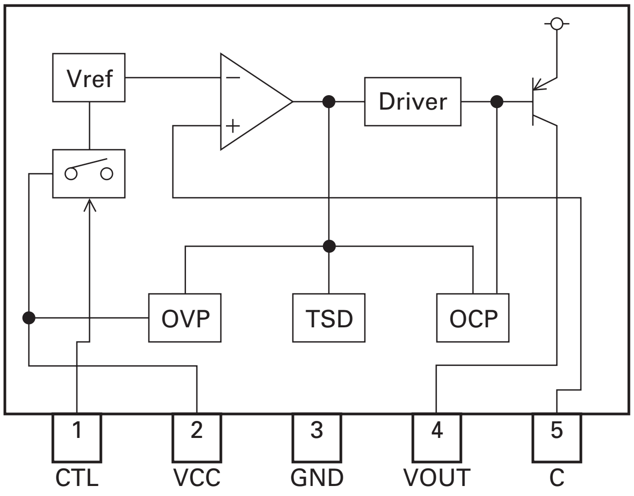
Stand-by
1
Reference &
Standby Logic
Clamp
6
Vcc
Output
2
5
GND
SAG
3
4
Input

NJM 2060V



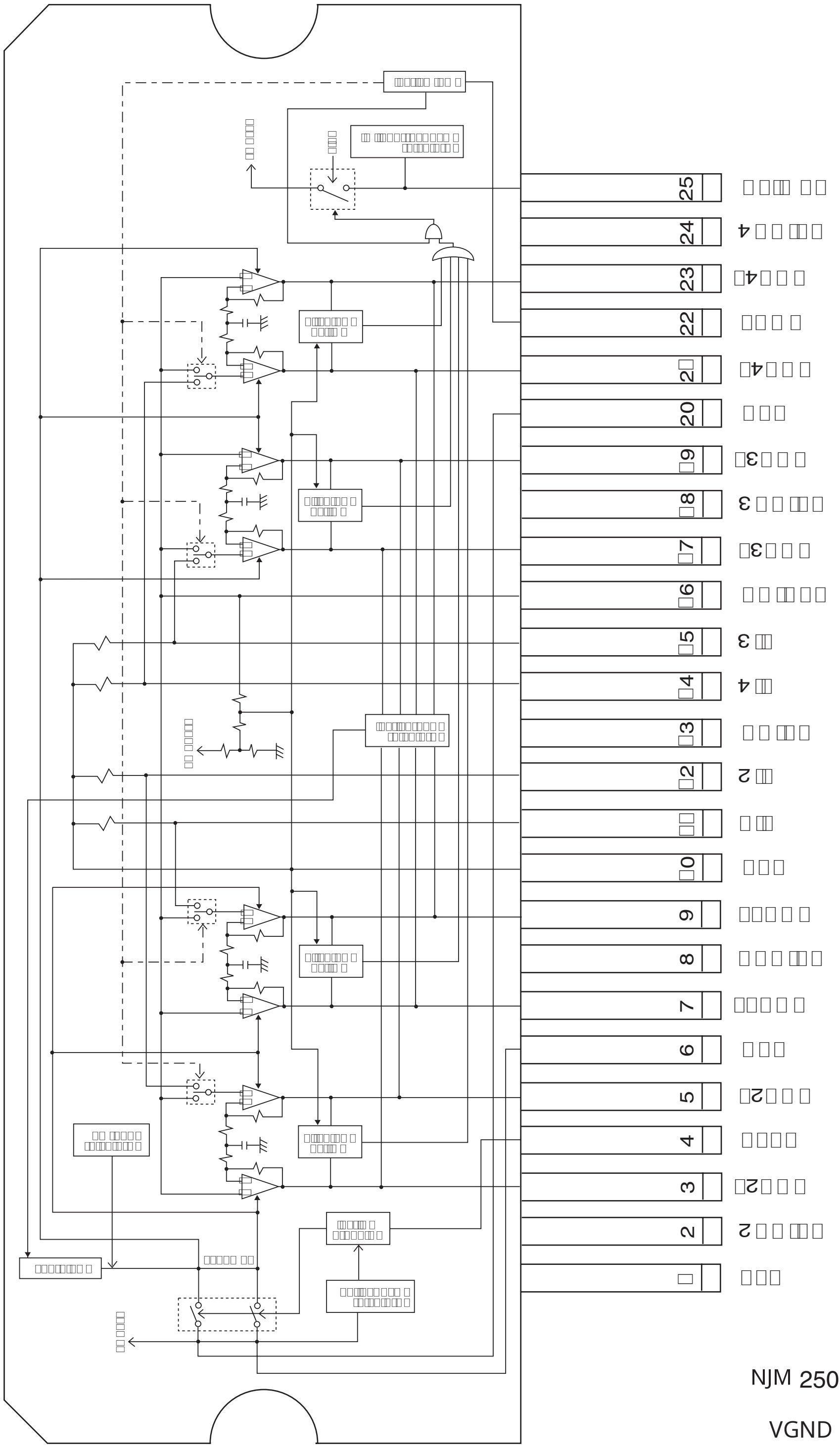
D OUTPUT
D -INPUT
D +INPUT
V-
C +INPUT
C -INPUT
C OUTPUT
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A OUTPUT
A -INPUT
A +INPUT
V+
B +INPUT
B -INPUT
B OUTPUT

BA00CC0WT

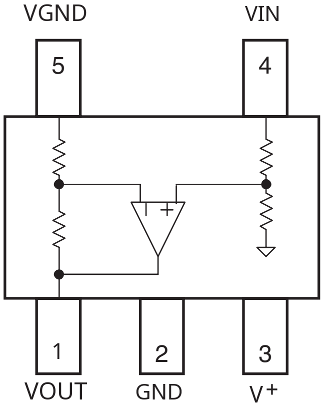


Vref
Driver
OVP
TSD
OCP
1
CTL
2
VCC
3
GND
4
VOUT
5
C

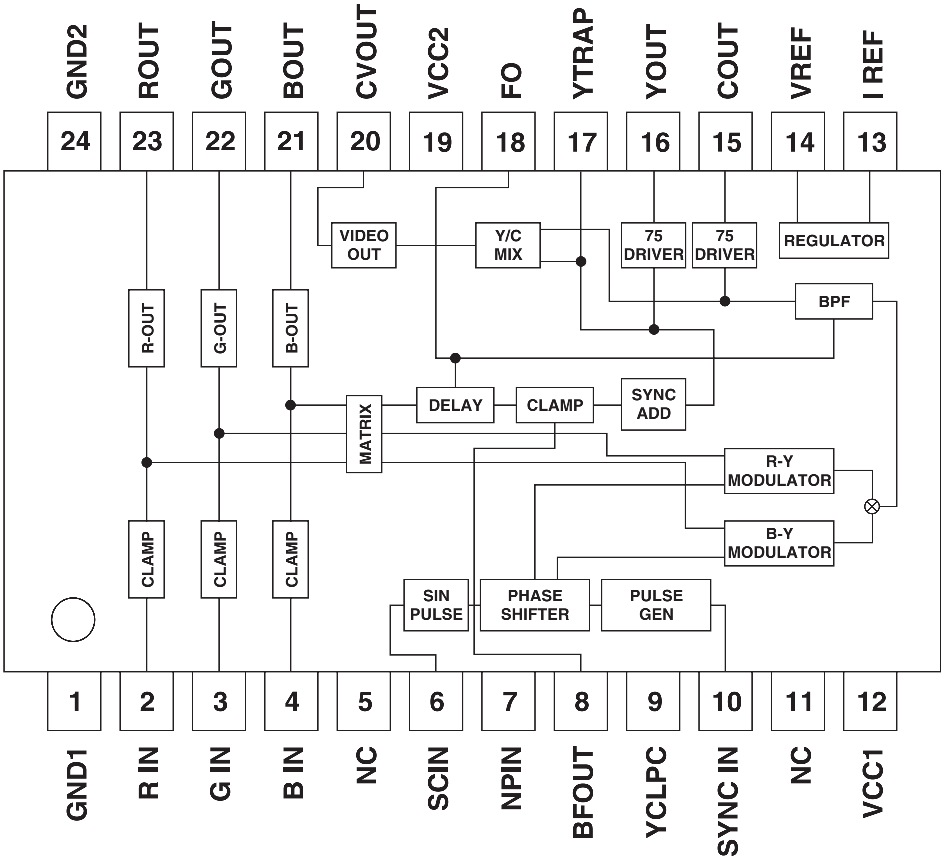
PAL007B


25
24
23
22
20
9
8
7
6
5
4
3
2

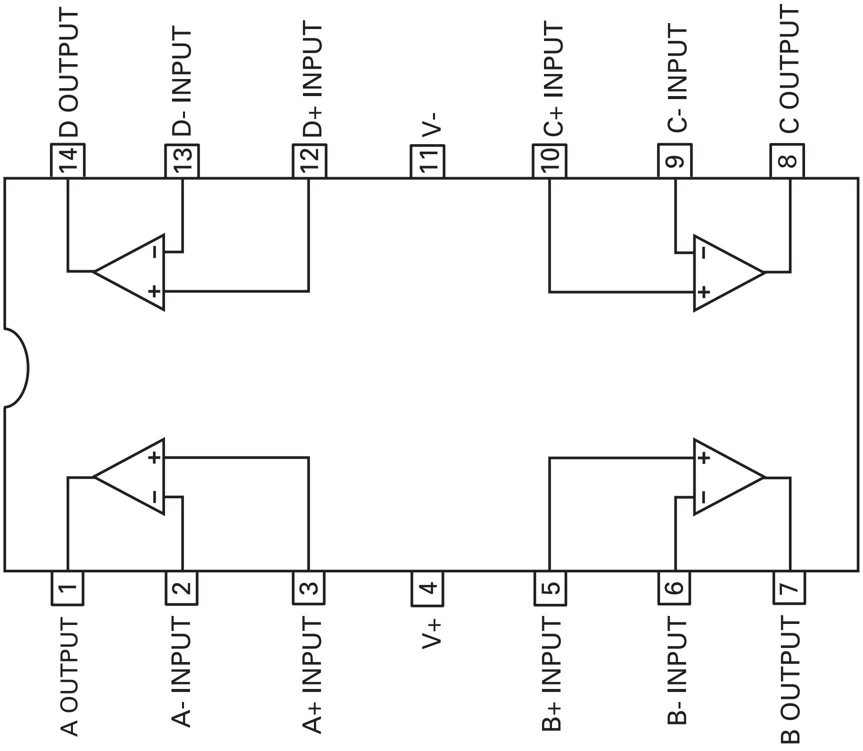
NJM2505F


VGND
VIN
5
4
1
2
3
VOUT
GND
V+

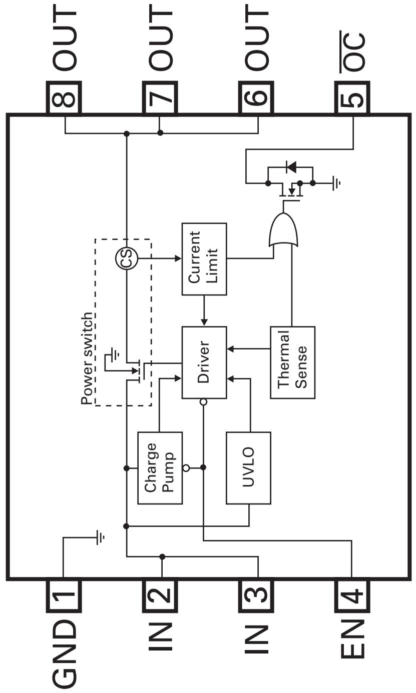
BH 7236AF


GND2
ROUT
GOUT
BOUT
CVOUT
VCC2
FO
YTRAP
YOUT
COUT
VREF
I REF
24
23
22
21
20
19
18
17
16
15
14
13
VIDEO OUT
Y/C MIX
75 DRIVER
75 DRIVER
REGULATOR
BPF
R-OUT
G-OUT
B-OUT
DELAY
CLAMP
SYNC ADD
MATRIX
R-Y MODULATOR
B-Y MODULATOR
CLAMP
CLAMP
CLAMP
SIN PULSE
PHASE SHIFTER
PULSE GEN
1
2
3
4
5
6
7
8
9
10
11
12
GND1
R IN
G IN
B IN
NC
SCIN
NPIN
BFOUT
YCLPC
SYNC IN
NC
VCC1

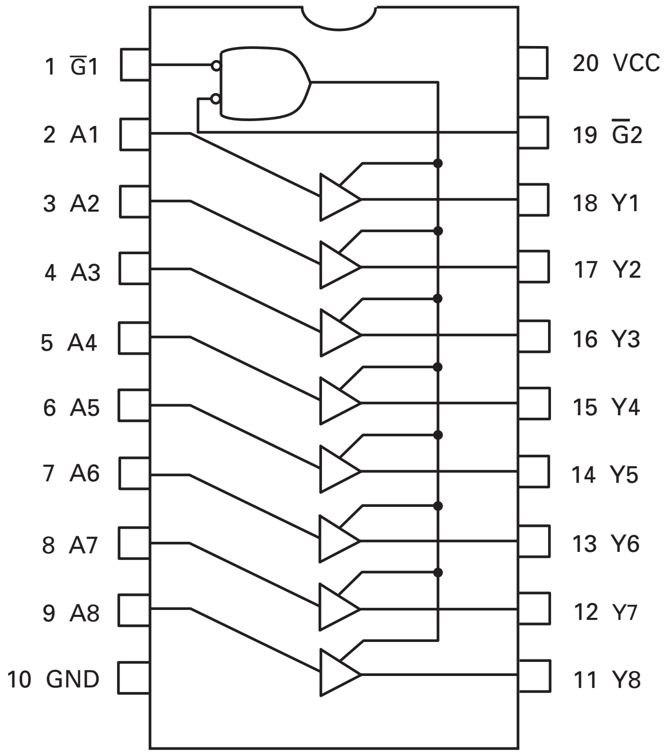
NJM 3403AV


D OUTPUT
D- INPUT
D+ INPUT
V-
C+ INPUT
C- INPUT
C OUTPUT
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A OUTPUT
A- INPUT
A+ INPUT
V+
B+ INPUT
B- INPUT
B OUTPUT

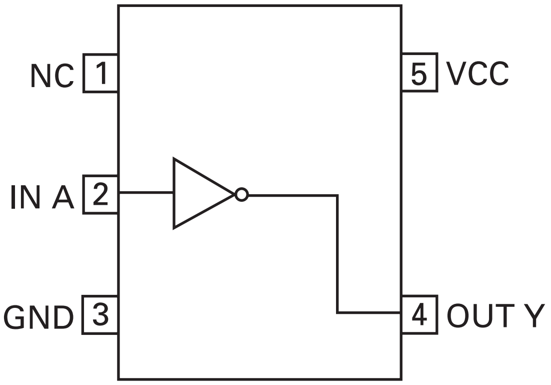
TPS 2051AD


8 OUT
7 OUT
6 OUT
5 OC
CS
Current Limit
Power switch
Driver
Thermal Sense
Charge Pump
UVLO
1 GND
2 IN
3 IN
4 EN

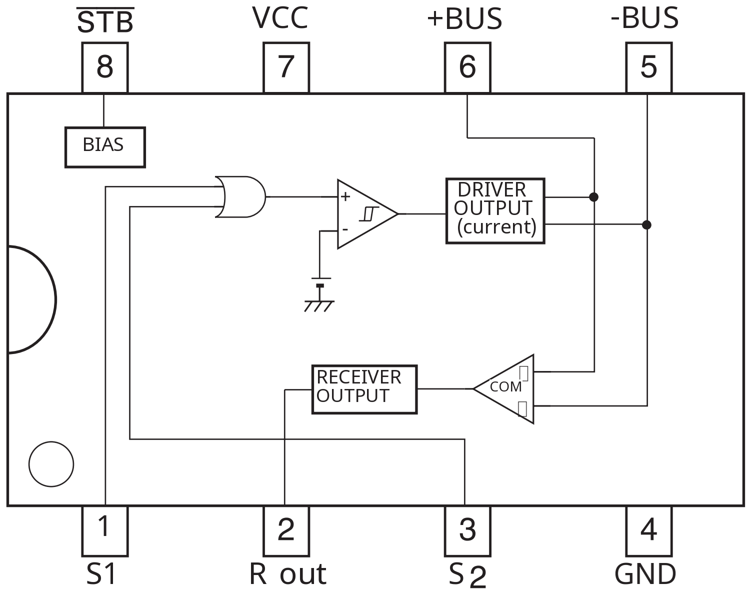
TC 74VHC 541FTS1


1 G1
2 A1
3 A2
4 A3
5 A4
6 A5
7 A6
8 A7
9 A8
10 GND
20 VCC
19 G2
18 Y1
17 Y2
16 Y3
15 Y4
14 Y5
13 Y6
12 Y7
11 Y8

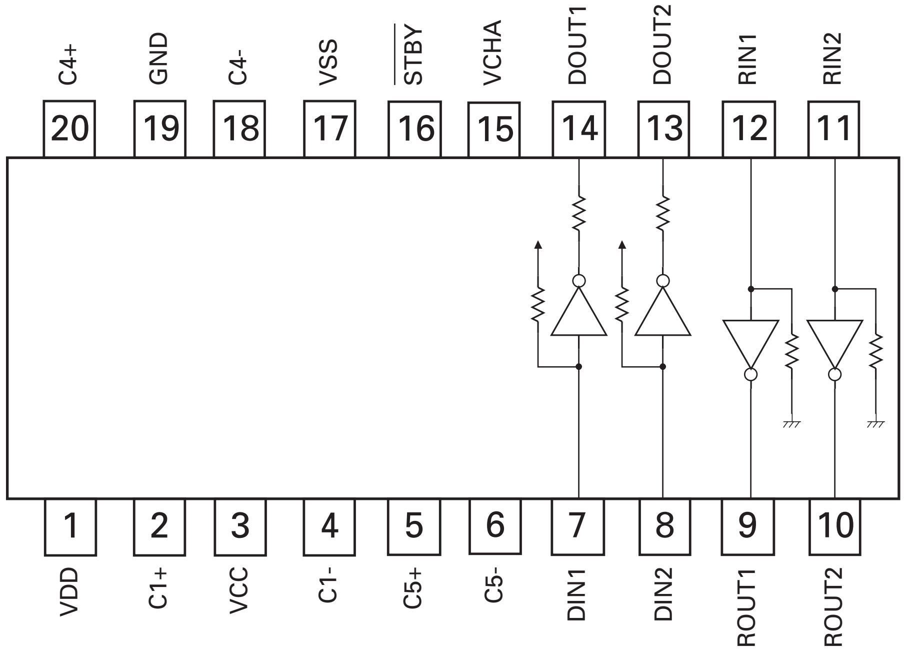
TC 7SET 04FUS1


NC 1
IN A 2
GND 3
5 VCC
4 OUT Y

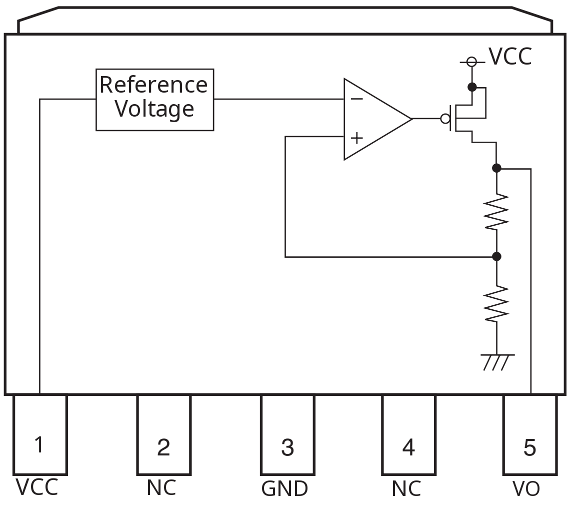
HA12241FP


STB
VCC
+BUS
-BUS
8
7
6
5
BIAS
DRIVER
OUTPUT
(current)
RECEIVER
OUTPUT
COM
1
2
3
4
S1
R out
S2
GND

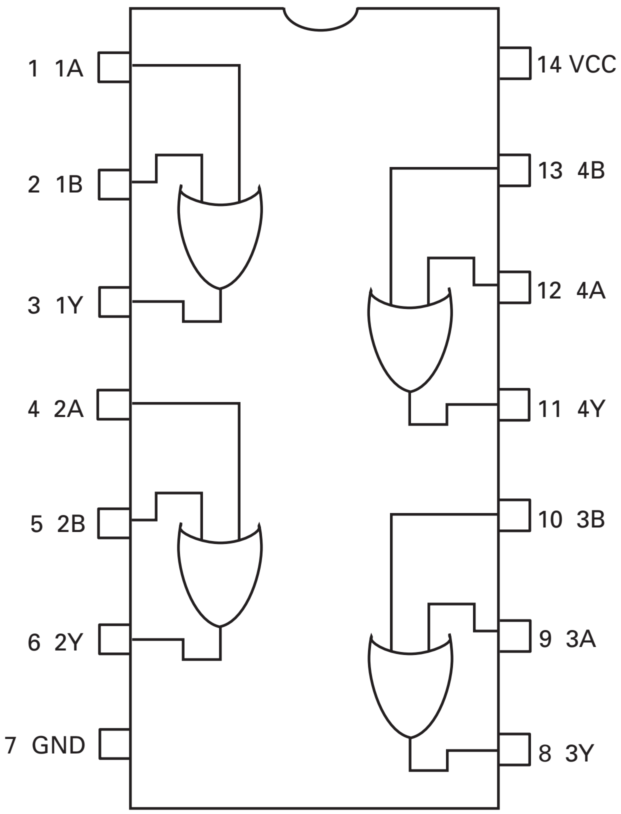
UPD4721GSS1


C4+
GND
C4-
VSS
STBY
VCHA
DOUT1
DOUT2
RIN1
RIN2
20
19
18
17
16
15
14
13
12
11
1
2
3
4
5
6
7
8
9
10
VDD
C1+
VCC
C1-
C5+
C5-
DIN1
DIN2
ROUT1
ROUT2

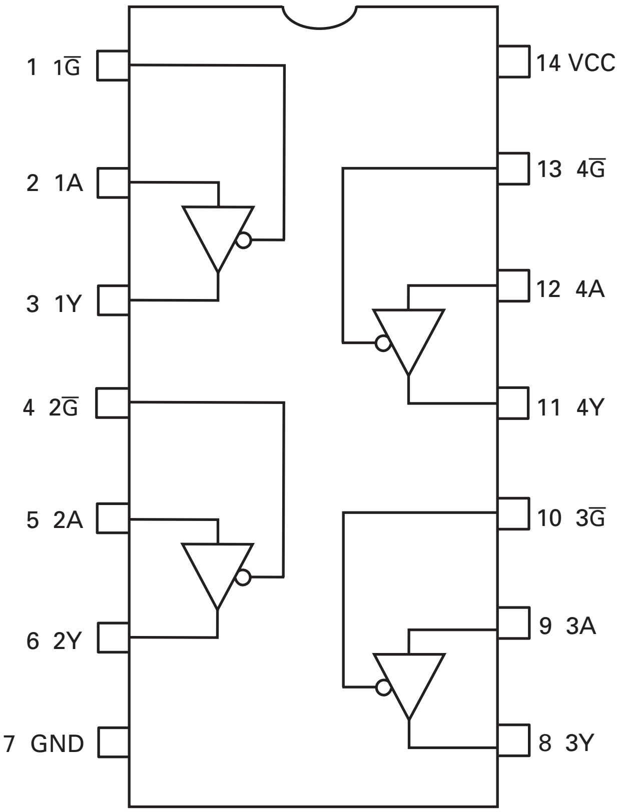
BD3931HFP


VCC
Reference
Voltage
−
+
1
2
3
4
5
VCC
NC
GND
NC
VO

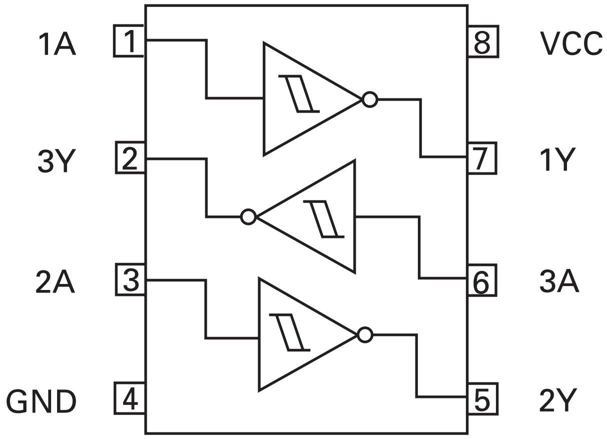
TC74VHC32FTS1


1 1A
2 1B
3 1Y
4 2A
5 2B
6 2Y
7 GND
14 VCC
13 4B
12 4A
11 4Y
10 3B
9 3A
8 3Y

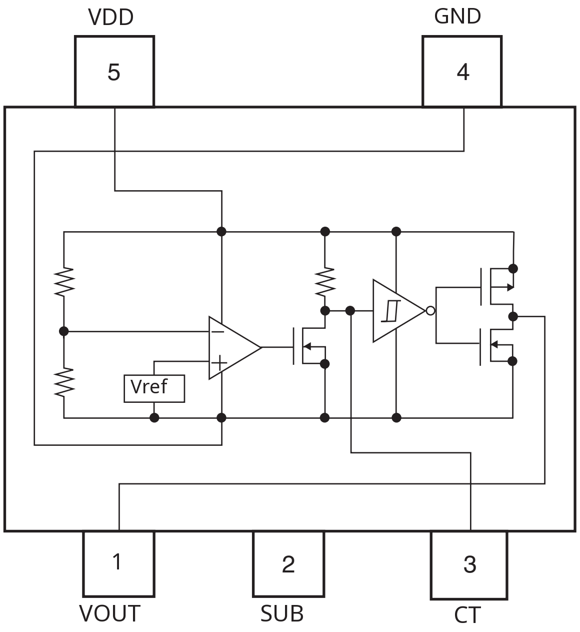
TC74VHCT125AFTS1
TC74VHC125FTS1


1 $1\overline{G}$
2 1A
3 1Y
4 $2\overline{G}$
5 2A
6 2Y
7 GND
14 VCC
13 $4\overline{G}$
12 4A
11 4Y
10 $3\overline{G}$
9 3A
8 3Y

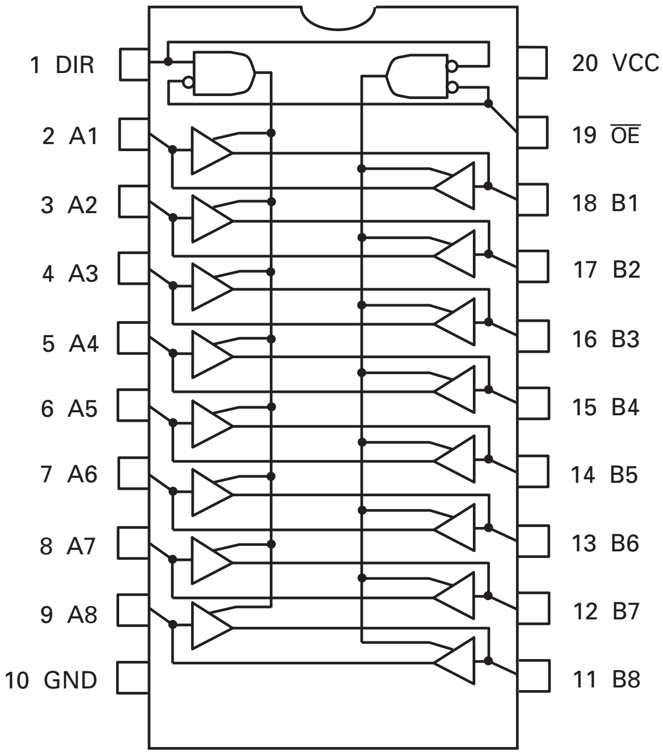
TC7WH14FU


1A 1
3Y 2
2A 3
GND 4
8 VCC
7 1Y
6 3A
5 2Y

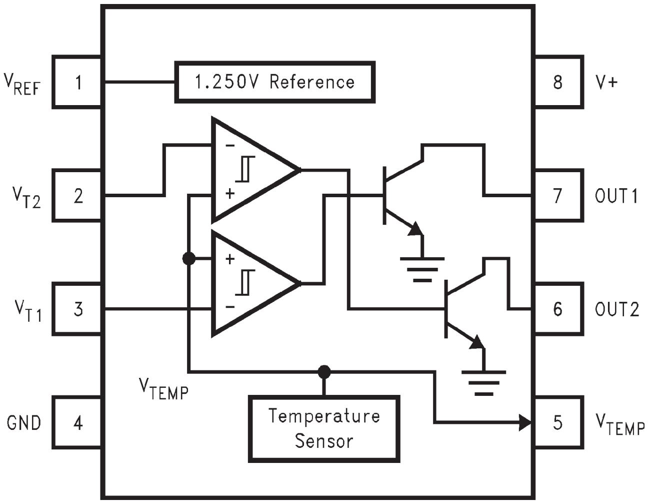
BD5335FVE


VDD
5
GND
4
Vref
1
VOUT
2
SUB
3
CT

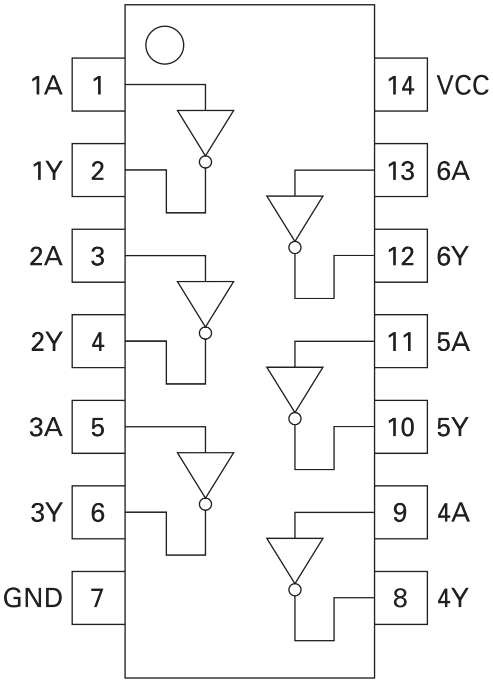
TC74LCX245FTS1
TC7MZ245FK


1 DIR
2 A1
3 A2
4 A3
5 A4
6 A5
7 A6
8 A7
9 A8
10 GND
20 VCC
19 $\overline{OE}$
18 B1
17 B2
16 B3
15 B4
14 B5
13 B6
12 B7
11 B8

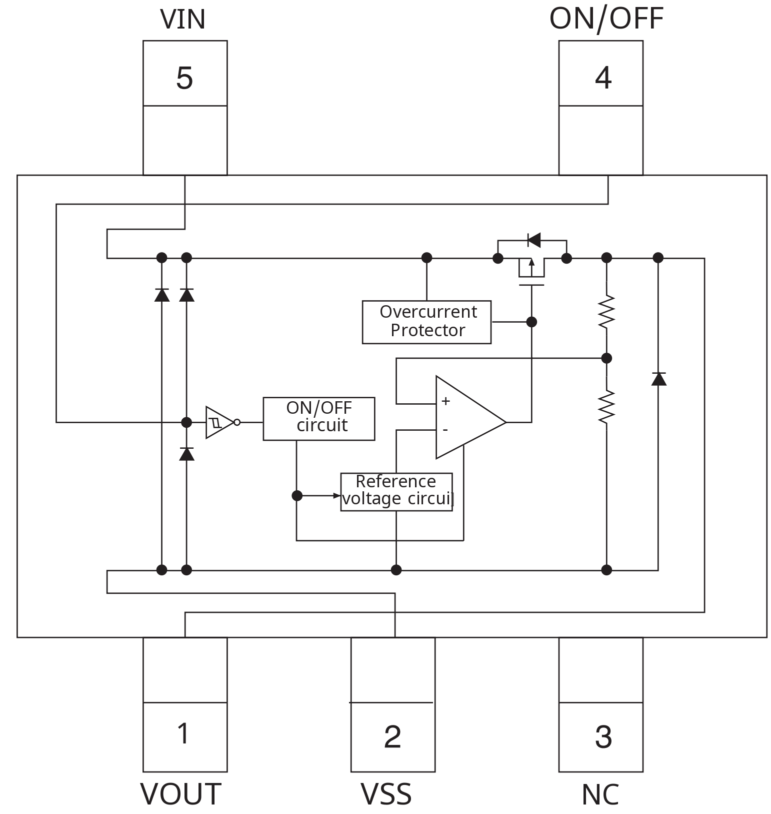
LM56BIMM


V_{REF} 1
1.250V Reference
8 V+
V_{T2} 2
7 OUT1
V_{T1} 3
6 OUT2
GND 4
V_{TEMP}
Temperature Sensor
5 V_{TEMP}

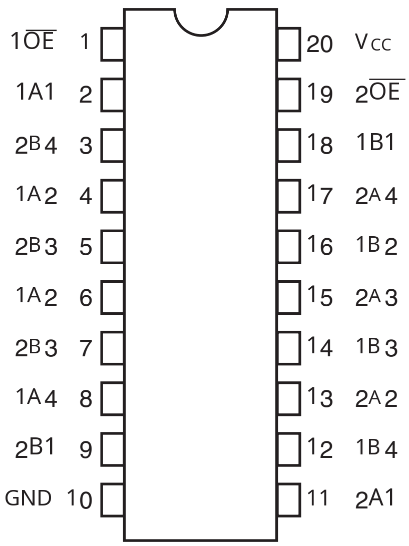
TC74VHC04FTS1

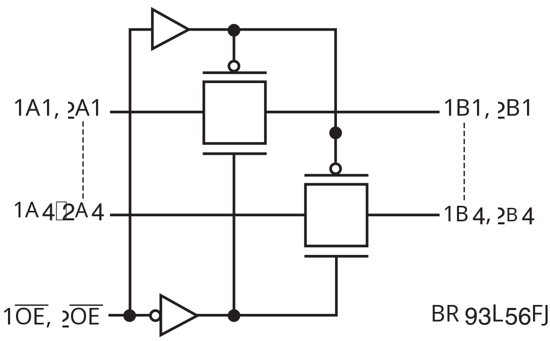

1A 1
1Y 2
2A 3
2Y 4
3A 5
3Y 6
GND 7
14 VCC
13 6A
12 6Y
11 5A
10 5Y
9 4A
8 4Y

S-1132B25-U5
S-1132B15-U5

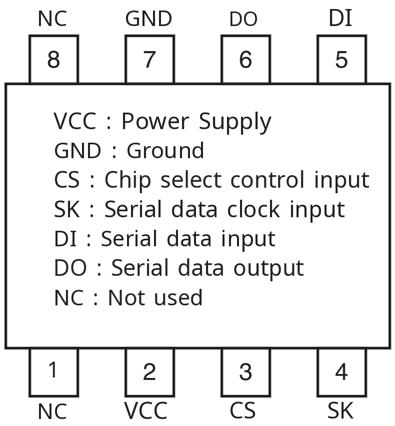

VIN
5
ON/OFF
4
Overcurrent Protector
ON/OFF circuit
Reference voltage circuit
1
VOUT
2
VSS
3
NC

TC7MBL3244AFK


1OE 1
1A1 2
2B4 3
1A2 4
2B3 5
1A2 6
2B3 7
1A4 8
2B1 9
GND 10
20 Vcc
19 2OE
18 1B1
17 2A4
16 1B2
15 2A3
14 1B3
13 2A2
12 1B4
11 2A1

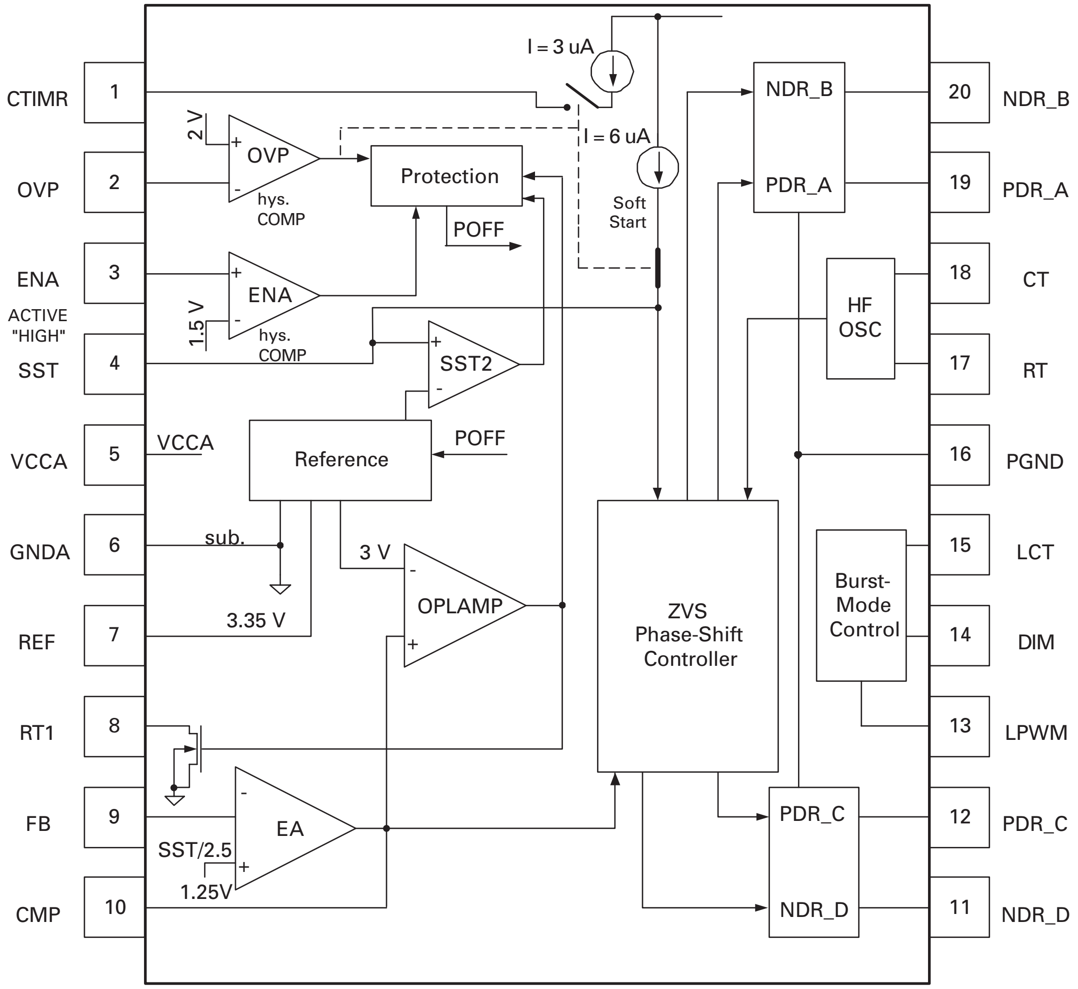

1A1, 2A1
1A4, 2A4
1OE, 2OE
1B1, 2B1
1B4, 2B4

BR93L56FJ-W

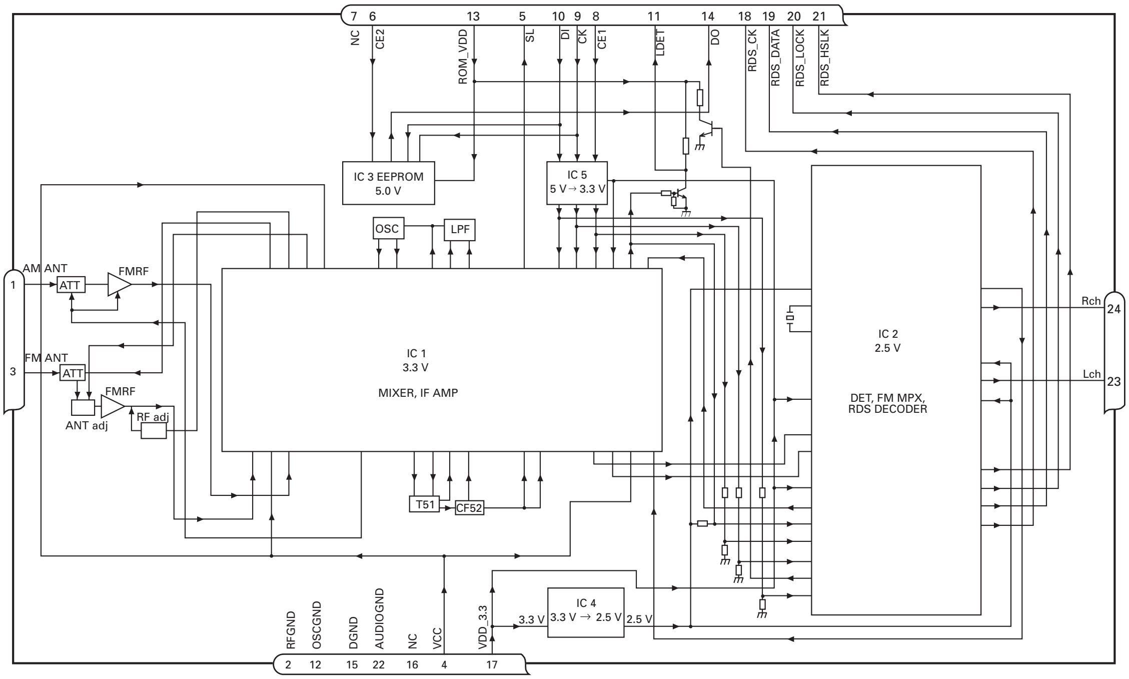

NC 8
GND 7
DO 6
DI 5
1 NC
2 VCC
3 CS
4 SK

VCC : Power Supply
GND : Ground
CS : Chip select control input
SK : Serial data clock input
DI : Serial data input
DO : Serial data output
NC : Not used

OZ964ISN


CTIMR 1
OVP 2
ENA 3
ACTIVE "HIGH"
SST 4
VCCA 5
GNDA 6
REF 7
RT1 8
FB 9
CMP 10
20 NDR_B
19 PDR_A
18 CT
17 RT
16 PGND
15 LCT
14 DIM
13 LPWM
12 PDR_C
11 NDR_D
I = 3 uA
I = 6 uA
Soft Start
2 V
OVP
hys. COMP
Protection
POFF
ENA
1.5 V
hys. COMP
SST2
VCCA
Reference
POFF
sub.
3.35 V
3 V
OPLAMP
EA
SST/2.5
1.25V
NDR_B
PDR_A
HF OSC
ZVS Phase-Shift Controller
Burst-Mode Control
PDR_C
NDR_D

● FM/AM Tuner Unit



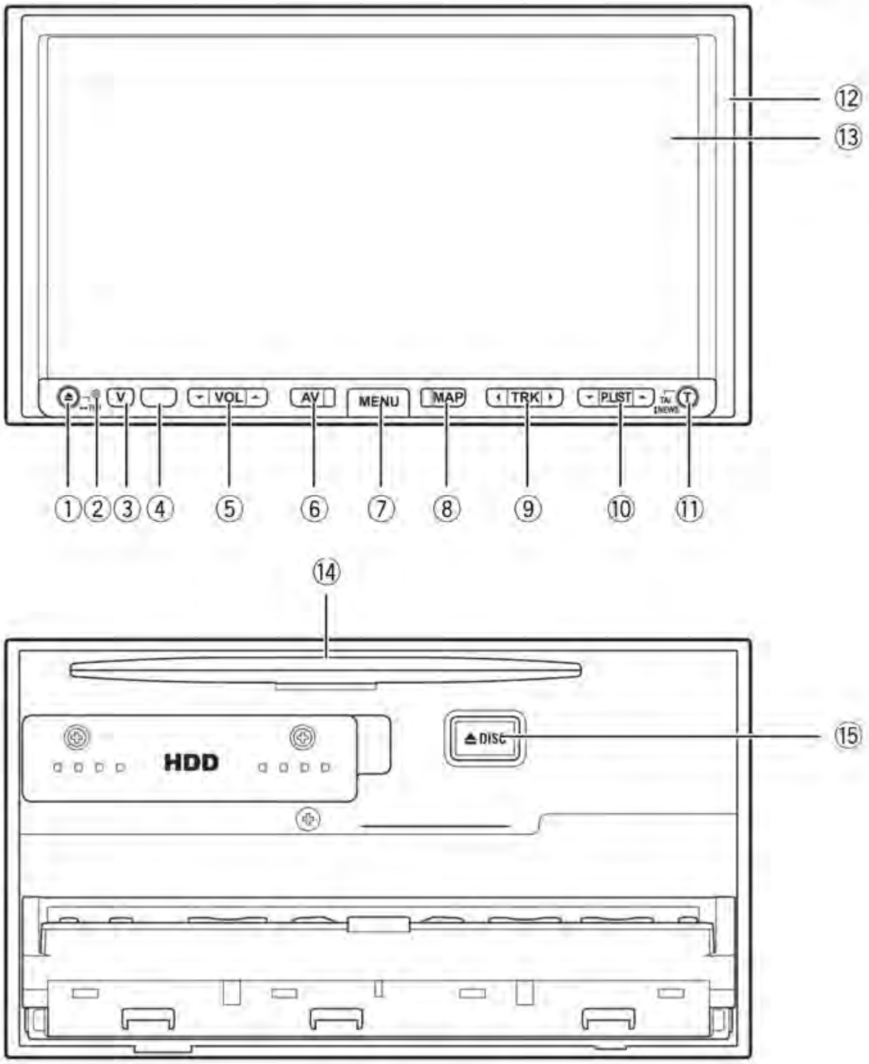
7 6 13 5 10 9 8 11 14 18 19 20 21
NC
CE2
ROM_VDD
SL
DI
CK
CE1
LDET
DO
RDS_CK
RDS_DATA
RDS_LOCK
RDS_HSLK
IC 3 EEPROM
5.0 V
IC 5
5 V → 3.3 V
OSC
LPF
AM ANT
1
ATT
FMRF
FM ANT
3
ATT
FMRF
ANT adj
RF adj
IC 1
3.3 V
MIXER, IF AMP
T51
CF52
IC 2
2.5 V
DET, FM MPX,
RDS DECODER
Rch
24
Lch
23
IC 4
3.3 V
3.3 V → 2.5 V
2.5 V
RFGND
OSCGND
DGND
AUDIOGND
NC
VCC
VDD_3.3
2 12 15 22 16 4 17

No.	Symbol	I/O	Explain	
1	AMANT	I	AM antenna input	AM antenna input high impedance AMANT pin is connected with an all antenna by way of 4.7 μH. (LAU type inductor) A series circuit including an inductor and a resistor is connected with RF ground for the countermeasure against the hum of power transmission line.
2	RFGND		RF ground	Ground of antenna block
3	FMANT	I	FM antenna input	Input of FM antenna 75 Ω Surge absorber (DSP-201M-S00B) is necessary.
4	VCC		power supply	The power supply for analog block. D.C 8.4 V ± 0.3 V
5	SL	O	signal level	Output of FM/AM signals level
6	CE2	I	chip enable-2	Chip enable for EEPROM ″Low″ active
7	NC		non connection	Not used
8	CE1	I	chip enable-1	Chip enable for AF•RF ″High″ active
9	CK	I	clock	Clock
10	DI	I	data in	Data input
11	LDET	O	lock detector	“Low” active
12	OSCGND		osc ground	Ground of oscillator block
13	ROM_VDD		power supply	Power supply for EEPROM pin 13 is connected with a power supply of micro computer.
14	DO	O	data out	Data output
15	DGND		digital ground	Ground of digital block
16	NC		non connection	Not used
17	VDD_3.3		power supply	The power supply for digital block. 3.3 V ± 0.2 V
18	RDS_CK	O	RDS clock	Output of RDS clock(2.5 V)
19	RDS_DATA	O	RDS data	Output of RDS data(2.5 V)
20	RDS_LOCK	O	RDS lock	Output unit “High” active(2.5 V) (RDS_LOCK turns over by the external transistor. “Low” active)
21	RDS_HSLK	O	RDS high speed lock	Output unit “High” active(2.5 V)(RDS_HSLK turns over by the external transistor. “Low” active)
22	AUDIOGND		audio ground	Ground of audio block
23	L ch	O	L channel output	FM stereo “L-ch” signal output or AM audio output
24	R ch	O	R channel output	FM stereo “R-ch” signal output or AM audio output

How to Use the Navigation System and Names of the Parts

Checking Part Names and Functions

This section gives information about the names of the parts and main features using the buttons.


⑫
⑬
VOL
AV
MENU
MAP
TRK
P.LIST
TA/NEWS
T
①②③④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑭
HDD
DISC
⑮

① **OPEN CLOSE button**
Press to open or close the LCD panel and access the disc loading slot.
Press and hold to display the screen angle adjustment screen where you can adjust the angle of the LCD panel.

② **RESET button**
Press to recover from an errors or another. You can clear the customised settings related to the AV source.

③ V button
Press to enter the **PICTURE ADJUSTMENT** mode.

➲ Operating the Picture Adjustment → Operation Manual

Press and hold to turn off the back light of the LCD panel. To turn on the back light, press this button again.

④ Signal receptor
This area receives signals from a remote control (sold separately).

⑤ VOL (▲/▼) button
Pressing on the ▲ side of the button to increase the volume of the audio source while pressing on the ▼ side of it to decrease the volume of the audio source.
You can not adjust the sounds of the navigation features (e.g. guidance voice) and phone volume.

⑥ AV button
Press to switch the screen to the audio operation screen. If you press the **AV** button again, the source switches.

❒ Press and hold the **AV** button to turn off the source.

⑦ MENU button
Press to display a navigation menu of the navigation system.
Press and hold to display Phone Menu when the Bluetooth unit is connected to this navigation system.

⑧ MAP button
Press to view the navigation map screen. Also, when the map is scrolling, pressing this button returns you to the display of the map of your surroundings. Use to switch the view mode of the navigation when the map of your surroundings is displayed.

⑨ TRK (◀/▶) button
Pressing this button when the built-in DVD drive source is selected skips a track or a chapter.
Press and hold to fast forward/fast reverse a track or a chapter.

❒ Various operations are possible depending on the Audio source.

⑩ P.LIST (▲/▼) button
Changes the discs in the magazine during the multi-CD player (sold separately) operation.
Switches preset channels during the Radio operation.

❒ Various operations are possible depending on the Audio source.

⑪ TA /NEWS button
Press to turn traffic announcements function on or off. Press and hold to turn NEWS function on or off.

⑫ LCD panel

⑬ LCD screen

⑭ Disc loading slot
Insert a disc to play.

⑮ EJECT button
Press to eject the disc from the disc loading slot.

About the Power Supply of the Navigation System

How to turn the power on or off

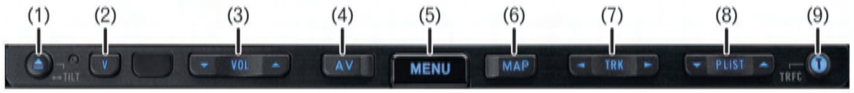
The power to this navigation system turns on or off in conjunction with the ignition switch (ACC) of the vehicle. There is no power switch.

How to turn off the screen for a while

Touch and hold the **V** button to turn off the screen for a while, and the navigation system enters the standby mode.

❒ To cancel the standby mode, press the **V** button again, or touch the screen.

Hardware buttons


(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
TILT
VOL
AV
MENU
MAP
TRK
P.LIST
TRFC

(1) OPEN CLOSE button
Press to access the DVD loading slot. Press and hold to display the angle adjustment screen.

(2) V button
Press to enter the PICTURE ADJUSTMENT mode.

(3) VOL (▼/▲) button
You can adjust the volume of Audio source.

(4) AV button
Press to switch the screen to the audio operation screen. If you press the AV button again, the audio source switches.

(5) MENU button
Press to display a navigation menu.

(6) MAP button
Press to view the navigation map screen or press to switch view mode.

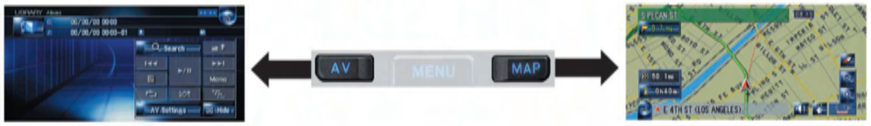
(7) TRK (◄/►) button
Pressing this button when the built-in DVD drive source is selected skips a track or a chapter. Press and hold to fast forward/fast reverse a track or a chapter.

(8) P.LIST (▼/▲) button
Switches preset channels during the Radio operation.

(9) T button*
Preset button for XM Instant Traffic and SIRIUS traffic channel. Hold down to assign preset and you can recall that later.

*: XM satellite radio tuner (GEX-P10XMT or GEX-P920XM) or SIRIUS satellite radio tunner (SIR-PNR2) is required, together with an active subscription separately.

Switching the screen

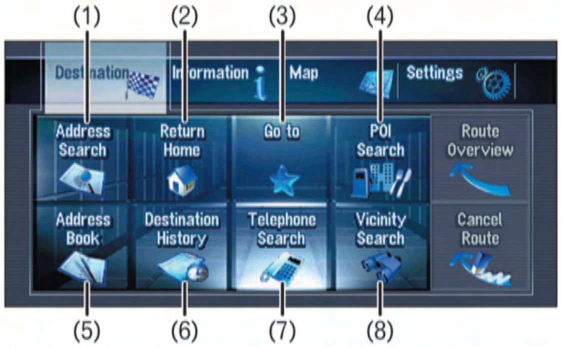


AV screen **Navigation map**

Search function overview

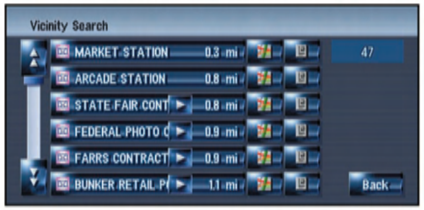
This navigation system has multiple methods for entering your destination.

Press the MENU button to display the navigation menu.


(1)
(2)
(3)
(4)
Destination
Information
Map
Settings
Address Search
Return Home
Go to
POI Search
Route Overview
Address Book
Destination History
Telephone Search
Vicinity Search
Cancel Route
(5)
(6)
(7)
(8)

(1) Search by address
(2) Shortcut key for home address
(3) Shortcut key for favorite destination
(4) Search for POIs in the database
(5) Select a destination from your registered point
(6) Select a previously routed destination
(7) Search destination by business telephone number
(8) Search for POIs in your vicinity

Search result list for vicinity search



Vicinity Search

MARKET-STATION 0.3 mi
ARCADE-STATION 0.8 mi
STATE FAIR CONT 0.8 mi
FEDERAL PHOTO C 0.9 mi
FARRS CONTRACT 0.9 mi
BUNKER RETAIL PI 1.1 mi

47

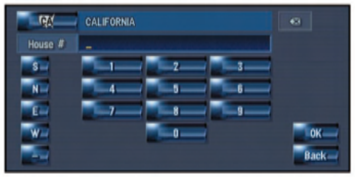
Back

POI······Restaurants, Hotels, Gas Stations, and other stores and businesses

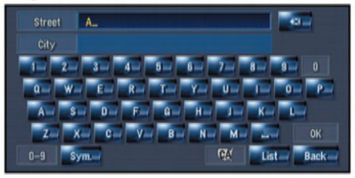
Searching your destination by address

1 Press the MENU button and then touch "Address Search".

2 Select state or province by CA and then input the house number and touch "OK".

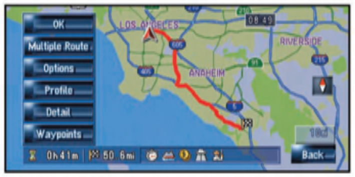

CA
CALIFORNIA
House #
S
N
E
W
1
2
3
4
5
6
7
8
9
0
OK
Back

3 Input the street name.


Street
A_
City
1 2 3 4 5 6 7 8 9 0
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
OK
0-9
Sym.
CA
List
Back

4 Select the street name from list.

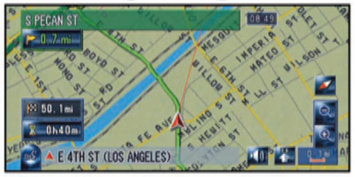
After some steps for narrowing down your destination, the route calculation carried out and the route confirmation screen appears.


OK
Multiple Route
Options
Profile
Detail
Waypoints
0h41m
50.6mi
LOS ANGELES
ANAHEIM
RIVERSIDE
08:49
Back

If you want to get another recommended route, by "**Multiple route**" and choose the best one.

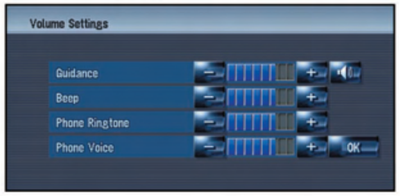
5 Touch "OK" to decide your route, and then the navigation starts.

6 Begin driving in accordance with navigation guidance.


S PECAN ST
0.7mi
08:49
50.1mi
0h40m
E 4TH ST (LOS ANGELES)

This navigation systems gives you route guidance both visually and by voice.

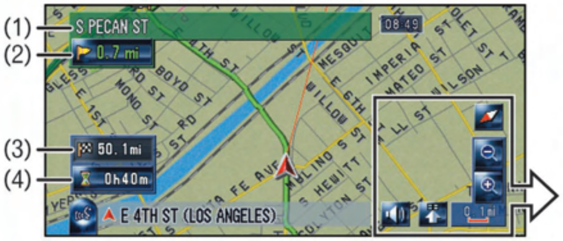
Setting the voice guidance volume


Volume Settings
Guidance
Beep
Phone Ringtone
Phone Voice
OK

Press or touch in the following order.

MENU button → **Settings** tab → **Volume**

Basic operation on the map screen


(1)
(2)
(3)
(4)
S PECAN ST
0.7mi
08:49
50.1mi
0h40m
E 4TH ST (LOS ANGELES)

Mute the navigation voice

Touch 🔈.

Short-cut Menu

Touch ▣.

Zoom in or zoom out

Touch ⊕ or ⊖.

Scrolling the map

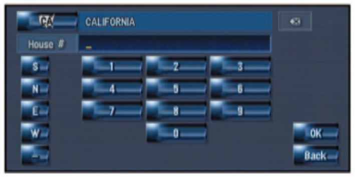
Touch where you would like to scroll to on the map screen.

(1) Next street
(2) Distance to the next guidance point
(3) Distance to your destination
(4) Estimated time of arrival (in default)

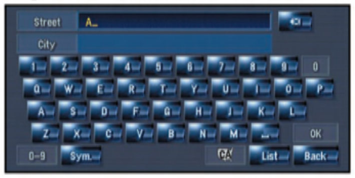
Searching your destination by address

1 **Press the MENU button and then touch "Address Search".**

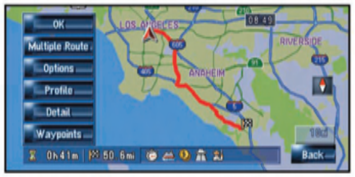
2 **Select state or province by CA and then input the house number and touch "OK".**


CA
CALIFORNIA
House #
S
N
E
W
1
2
3
4
5
6
7
8
9
0
OK
Back

3 **Input the street name.**


Street
City
A_
0-9
Sym.
CA
List
OK
Back

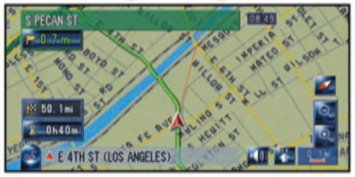
4 **Select the street name from list.**
After some steps for narrowing down your destination, the route calculation carried out and the route confirmation screen appears.


OK
Multiple Route
Options
Profile
Detail
Waypoints
0h41m
50.6mi
LOS ANGELES
RIVERSIDE
ANAHEIM
08:49
Back

If you want to get another recommended route, by "**Multiple route**" and choose the best one.

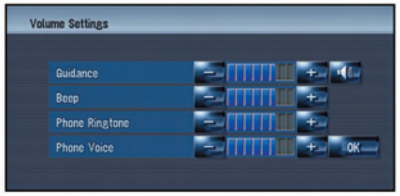
5 **Touch "OK" to decide your route, and then the navigation starts.**

6 **Begin driving in accordance with navigation guidance.**


S PECAN ST
0.7mi
50.1mi
0h40m
E 4TH ST (LOS ANGELES)
08:49

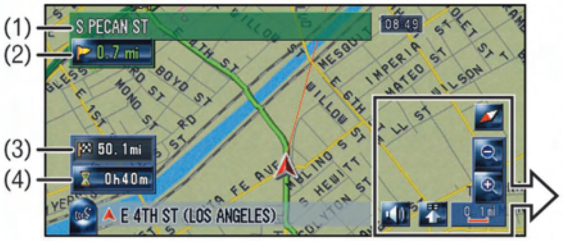
This navigation systems gives you route guidance both visually and by voice.

Setting the voice guidance volume


Volume Settings
Guidance
Beep
Phone Ringtone
Phone Voice
OK

Press or touch in the following order.
MENU button → **Settings** tab → **Volume**

Basic operation on the map screen


(1)
(2)
(3)
(4)
S PECAN ST
0.7mi
50.1mi
0h40m
E 4TH ST (LOS ANGELES)
08:49

Mute the navigation voice
Touch 🔊.

Short-cut Menu
Touch ⇧.

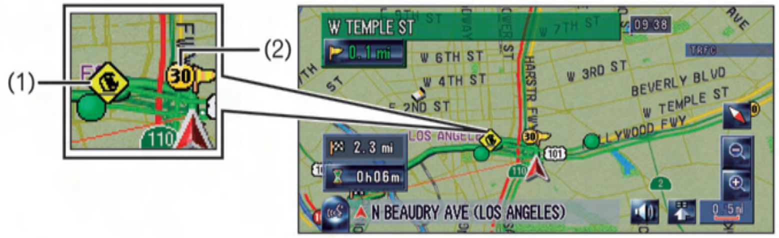
Zoom in or zoom out
Touch ⊕ or ⊖.

Scrolling the map
Touch where you would like to scroll to on the map screen.

(1) Next street
(2) Distance to the next guidance point
(3) Distance to your destination
(4) Estimated time of arrival (in default)

Traffic information on the map

Traffic conditions can be overlaid on the map.
GEX-P10XMT XM Digital Satellite Data & Audio Receiver (sold separately) is required, together with an active subscription for the XM NavTraffic service.


(1)
(2)
W TEMPLE ST
0.1 mi
09 38
W 6TH ST
W 4TH ST
2ND ST
W 3RD ST
BEVERLY BLVD
W TEMPLE ST
HARSTR FWY
HOLLYWOOD FWY
LOS ANGELES
2.3 mi
0h06m
N BEAUDRY AVE (LOS ANGELES)
0.5 mi
30
110
101

(1) Traffic event

Stopped traffic

Stop and go traffic

🚫 Closed/blocked roads

Other event (e.g., accident)

(2) Traffic flow

The following items represent the traffic flow for the road.

5 — 15 5-15 mph (8-24 km/h)

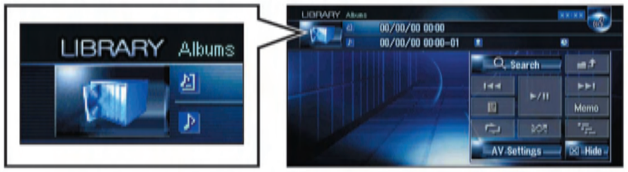
20 — 40 20-40 mph (32-64 km/h)

45 — ● 45 mph or faster (72 km/h or faster)

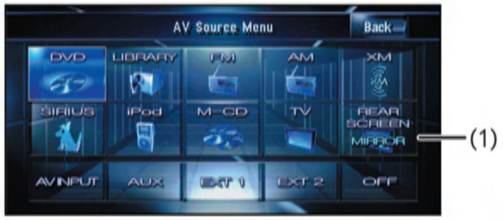
The icon ● indicates that the average speed of the road is over 45 mph (72 km/h).

Changing the AV source

1 Touch the source icon.


LIBRARY Albums
00/00/00 00:00
00/00/00 00:00-01
Search
Memo
AV Settings
Hide

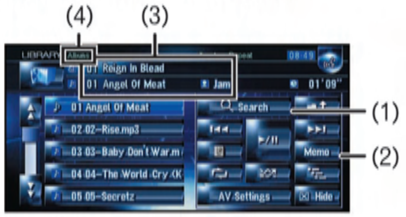
2 Touch the desired AV source.


AV Source Menu
Back
DVD
LIBRARY
FM
AM
XM
SIRIUS
iPod
M-CD
TV
REAR SCREEN MIRROR
AV INPUT
AUX
EXT 1
EXT 2
OFF
(1)

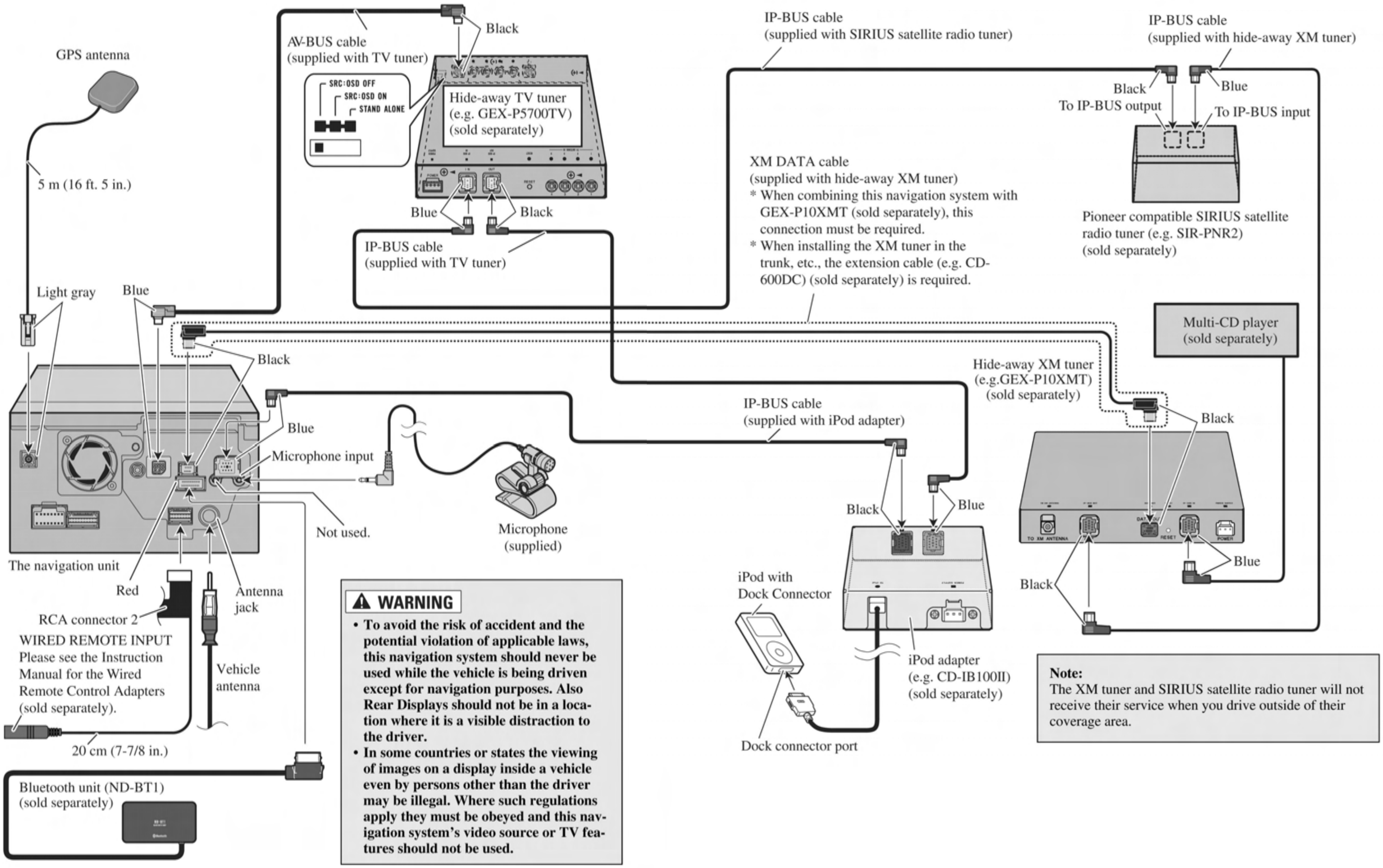
(1) You can switch the AV source for rear display in the following order.
"MIRROR" (Same as front) – **"DVD"** (DVD drive) – **"AV"** (AV input)

Operation of Music Library

First, you need to play a CD for recording into the built-in hard disk drive. (The recording is carried out by 4 times speed in parallel with playing that CD.) After the recording, you can find and select the song easily from a playlist.


(4)
(3)
(1)
(2)
LIBRARY
Albums
01 Reign In Blead
01 Angel Of Meat
Jam
01'09"
01 Angel Of Meat
02 02–Rise.mp3
03 03–Baby Don't War.m
04 04–The World Cry
05 05–Secretz
Search
Memo
AV Settings
Hide

(1) Search a song by album name, artist name, genre, customized playlist.
(2) Touch and hold to memorize that song as "My Mix" playlist.
(3) Information of current song
(4) "Group" playing now.


GPS antenna
5 m (16 ft. 5 in.)
Light gray
Blue
AV-BUS cable
(supplied with TV tuner)
Black
SRC:OSD OFF
SRC:OSD ON
STAND ALONE
Hide-away TV tuner
(e.g. GEX-P5700TV)
(sold separately)
Blue
Black
IP-BUS cable
(supplied with TV tuner)
IP-BUS cable
(supplied with SIRIUS satellite radio tuner)
XM DATA cable
(supplied with hide-away XM tuner)
* When combining this navigation system with GEX-P10XMT (sold separately), this connection must be required.
* When installing the XM tuner in the trunk, etc., the extension cable (e.g. CD-600DC) (sold separately) is required.
IP-BUS cable
(supplied with hide-away XM tuner)
Black
Blue
To IP-BUS output
To IP-BUS input
Pioneer compatible SIRIUS satellite radio tuner (e.g. SIR-PNR2)
(sold separately)
Multi-CD player
(sold separately)
Hide-away XM tuner
(e.g.GEX-P10XMT)
(sold separately)
Black
Blue
Black
TO XM ANTENNA
RESET
POWER
Black
Blue
Microphone input
Not used.
Microphone
(supplied)
IP-BUS cable
(supplied with iPod adapter)
Black
Blue
iPod with
Dock Connector
Dock connector port
iPod adapter
(e.g. CD-IB100II)
(sold separately)
The navigation unit
Red
RCA connector 2
WIRED REMOTE INPUT
Please see the Instruction Manual for the Wired Remote Control Adapters (sold separately).
Antenna jack
Vehicle antenna
20 cm (7-7/8 in.)
Bluetooth unit (ND-BT1)
(sold separately)

⚠ WARNING

- **To avoid the risk of accident and the potential violation of applicable laws, this navigation system should never be used while the vehicle is being driven except for navigation purposes. Also Rear Displays should not be in a location where it is a visible distraction to the driver.**
- **In some countries or states the viewing of images on a display inside a vehicle even by persons other than the driver may be illegal. Where such regulations apply they must be obeyed and this navigation system's video source or TV features should not be used.**

Note:
The XM tuner and SIRIUS satellite radio tuner will not receive their service when you drive outside of their coverage area.

Jigs List

Jig No.	Name	Remarks
[illegible]1455	[illegible]22-Pin Extension Cable	Navi Mother PCB <-> [illegible]
[illegible]1170	40-Pin FFC	DVD Mechanism Module <--> Navi Mother PCB
[illegible]1284	40-Pin FFC [illegible]	[illegible] <--> [illegible]
[illegible]1327	20-Pin Extension Cord	Navi Mother PCB <-> Audio Unit
[illegible]1406	80-Pin FFC	Navi Mother PCB <-> Audio Unit
[illegible]1209	20-Pin FFC	Navi Mother PCB <-> Audio Unit
[illegible]1123	[illegible]5-Pin FFC	Audio Unit <-> Main PCB [illegible]
[illegible]1170	40-Pin FFC	[illegible] <-> [illegible]
[illegible]1416	[illegible] for Monitor Adjustment	For [illegible] display
[illegible]1463	Conversion PCB for [illegible] display	[illegible]GF1416 Conversion
[illegible]1322	[illegible]1463 for repair	For repair
[illegible]1323	[illegible]1463 for repair	For repair
[illegible]1068	Torques screwdriver	[illegible]8 For HDD [illegible]VER [illegible]
[illegible]1194	Test Disc	

Grease List

Name	Jig No.	Remarks
Grease	[illegible]EM1045	
Grease	[illegible]EM1043	
Grease	[illegible]EM1024	
Grease	[illegible]EM1050	

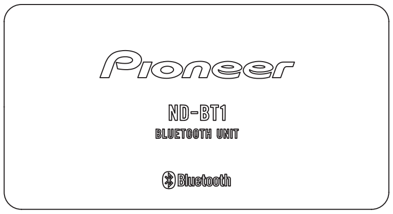
Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
DVD pickup lenses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

Pioneer sound.vision.soul

Service Manual



ND-BT1/E5

ORDER NO.
CRT3684

BLUETOOTH UNIT

ND-BT1/E5

For details, refer to "Important Check Points for Good Servicing".

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SAFETY INFORMATION

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

● Service Precaution !

1. You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Be careful in handling ICs. Some ICs such as MOS type are so fragile that they can be damaged by electrostatic induction.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

SAFETY INFORMATION 2
1. SPECIFICATIONS 5
2. EXPLODED VIEWS AND PARTS LIST 6
  2.1 PACKING 6
  2.2 EXTERIOR 7
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM 8
  3.1 BLOCK DIAGRAM 8
  3.2 BLUETOOTH ASSY 10
4. PCB CONNECTION DIAGRAM 12
  4.1 BLUETOOTH ASSY 12
5. ELECTRICAL PARTS LIST 16
6. ADJUSTMENT 18
  6.1 BLUETOOTH TEST MODE 18
7. GENERAL INFORMATION 22
  7.1 DIAGNOSIS 22
  7.1.1 DISASSEMBLY 22
  7.1.2 CONNECTOR FUNCTION DESCRIPTION 23
  7.2 IC 24
8. OPERATIONS 26

1. SPECIFICATIONS

General

Max. Current Consumption	0.25 A
Dimensions (W x H x D)	89 mm x 16 mm x 48 mm (3-1/2 x 5/8 x 1-7/8 in.)
Weight	0.16 kg (0.33 lbs)

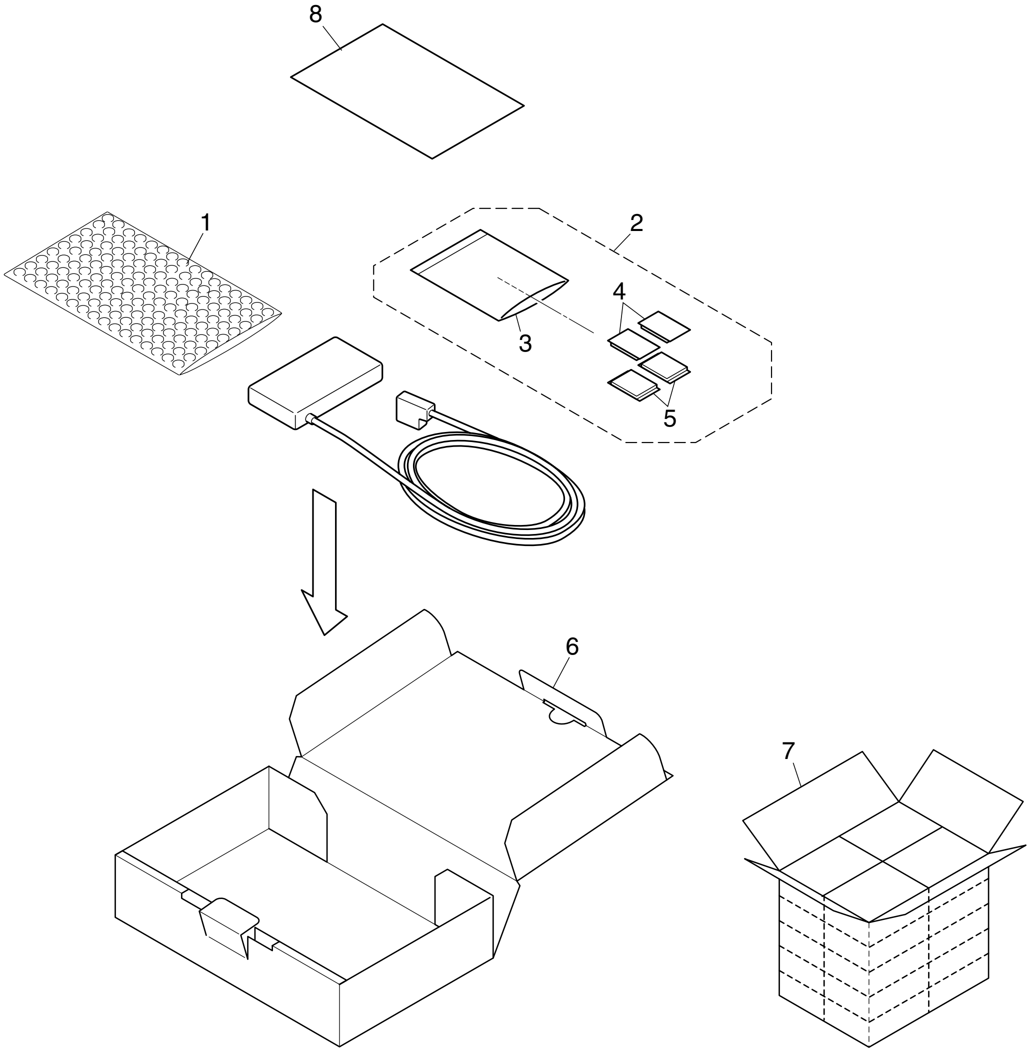
Bluetooth

Version	Bluetooth 1.1 certified
Maximum Output Power	+4 dBm (Power Class 2)

2. EXPLODED VIEWS AND PARTS LIST

NOTES :
- *Parts marked by " * " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screw adjacent to ▽ mark on the product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions,apply as you think it appropriate.)*

2.1 PACKING



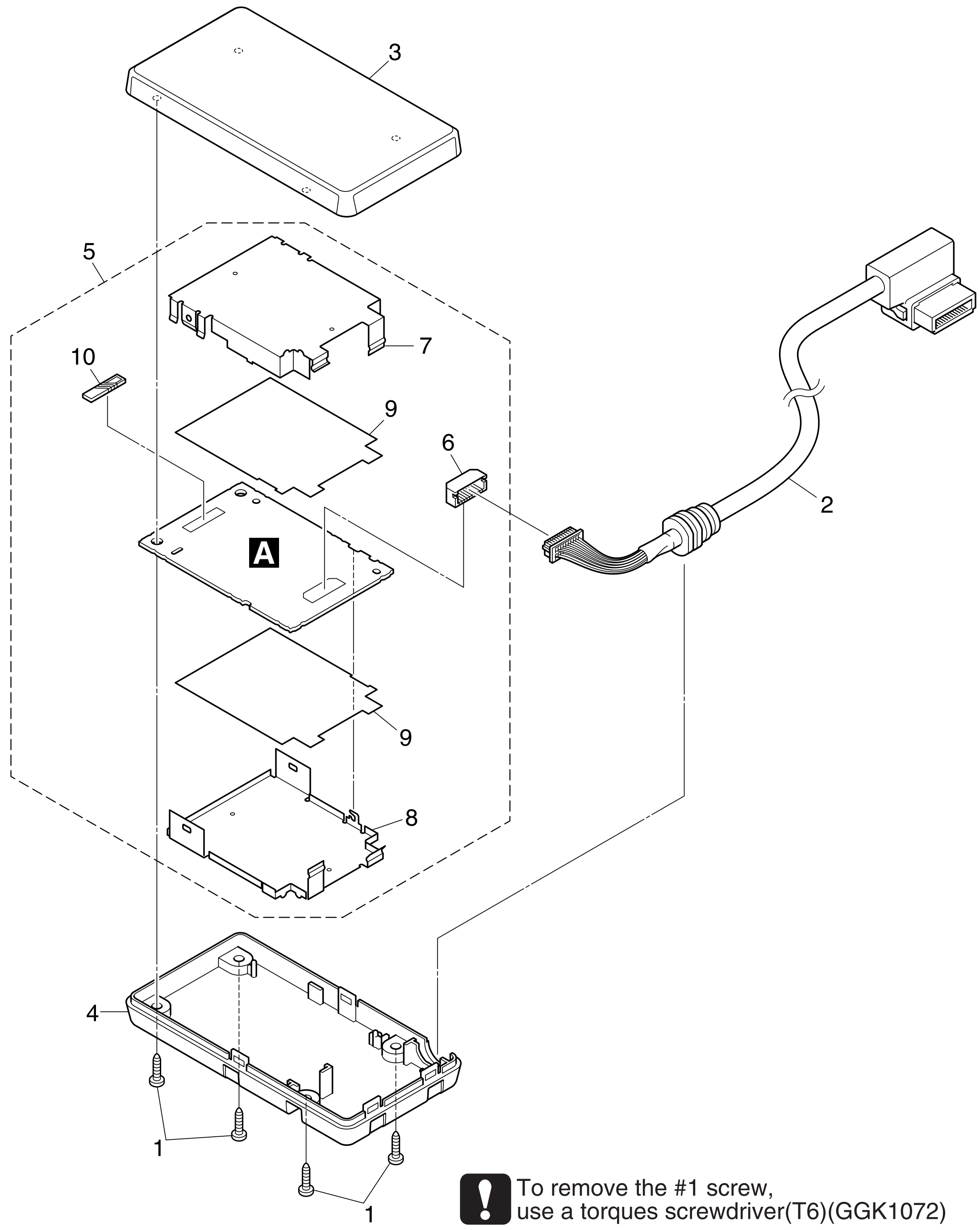
PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Air Cushioned Bag	CEG1081
	2	Accessories Assy	CEA5378
*	3	Polyethylene Bag	CEG1158
	4	Fastener	CNM9866
	5	Fastener	CNM9867
	6	Carton	CHG5904
	7	Contain Box	CHL5904
	8	Owner's Manual	CRD4118

Owner's Manual

Part No.	Language
CRD4118	English, Spanish, German, French, Italian, Dutch, Russian

2.2 EXTERIOR



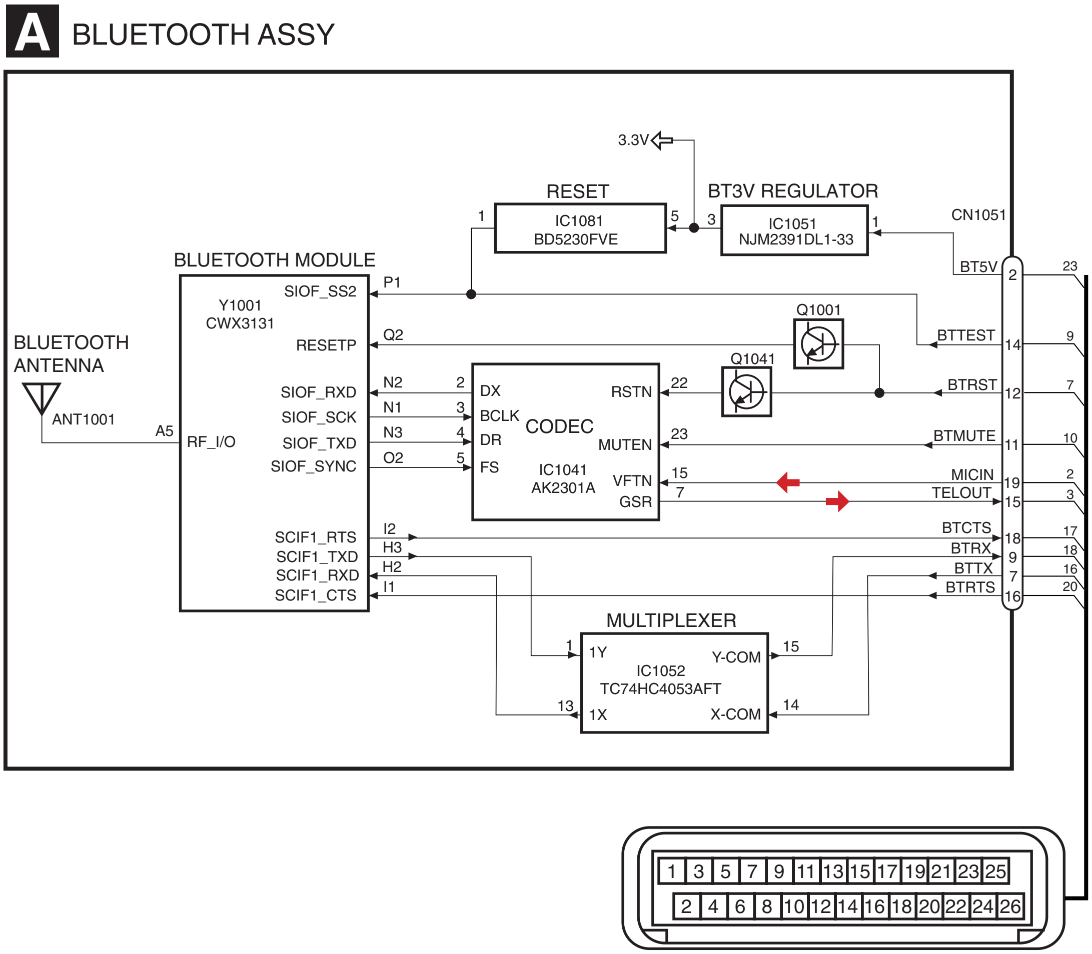
To remove the #1 screw,
use a torques screwdriver(T6)(GGK1072)

EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BPZ20T100FTB
	2	Cord Assy	CDE7963
	3	Cover	CNS8686
	4	Case	CNS8741
	5	Bluetooth Assy	CWN1211
	6	Connector(CN1051)	CKS5270
	7	Shield	CND3026
	8	Shield	CND3027
	9	Insulator	CNM9813
	10	Antenna(ANT1001)	CTX1095

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

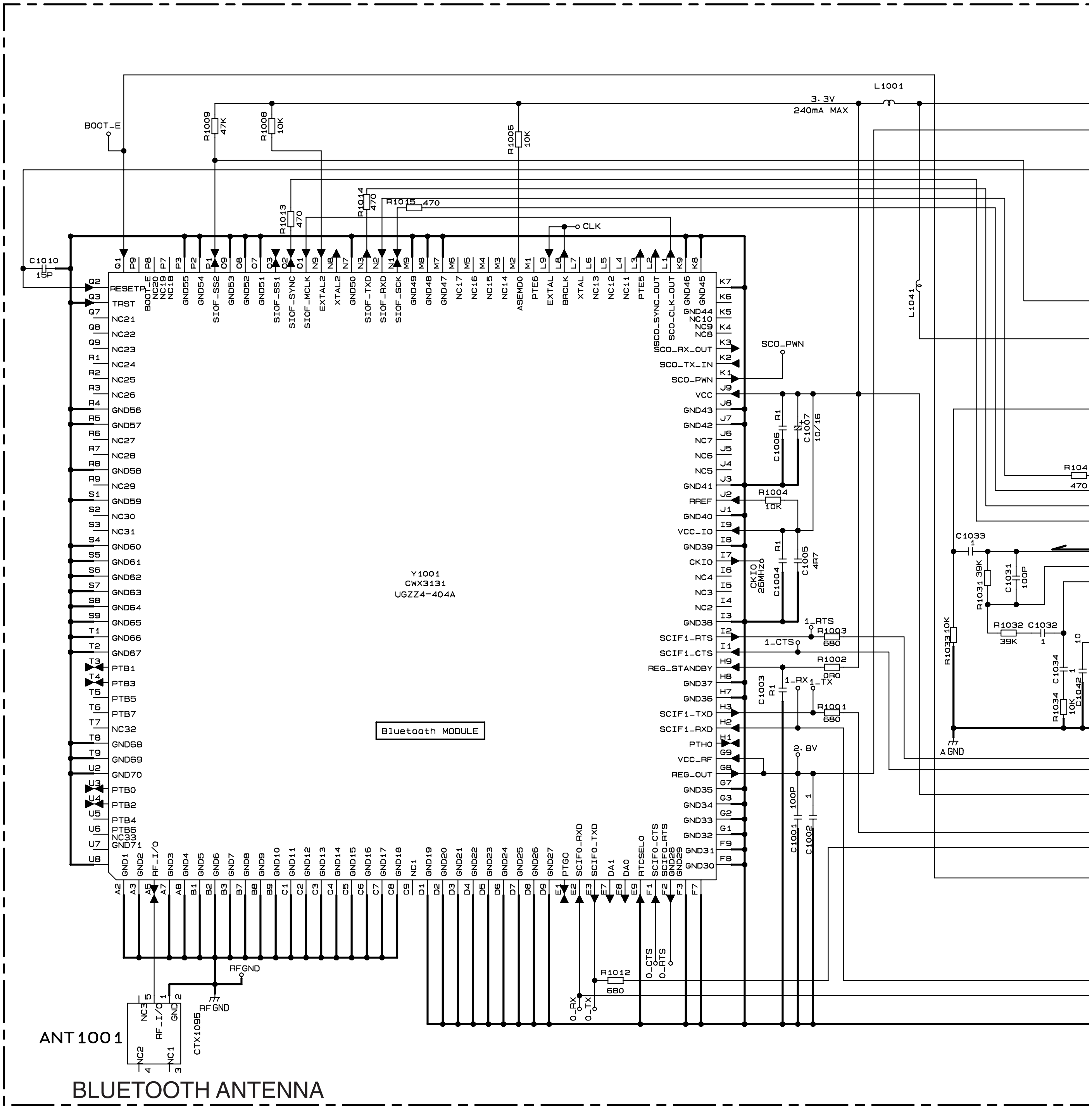
3.1 BLOCK DIAGRAM


A
BLUETOOTH ASSY
3.3V
RESET
IC1081
BD5230FVE
BT3V REGULATOR
IC1051
NJM2391DL1-33
CN1051
BT5V
BTTEST
BTRST
BTMUTE
MICIN
TELOUT
BTCTS
BTRX
BTTX
BTRTS
BLUETOOTH MODULE
Y1001
CWX3131
SIOF_SS2
RESETP
SIOF_RXD
SIOF_SCK
SIOF_TXD
SIOF_SYNC
SCIF1_RTS
SCIF1_TXD
SCIF1_RXD
SCIF1_CTS
RF_I/O
A5
P1
Q2
N2
N1
N3
O2
I2
H3
H2
I1
BLUETOOTH ANTENNA
ANT1001
Q1001
Q1041
CODEC
DX
BCLK
DR
FS
RSTN
MUTEN
VFTN
GSR
IC1041
AK2301A
MULTIPLEXER
IC1052
TC74HC4053AFT
1Y
1X
Y-COM
X-COM
1 3 5 7 9 11 13 15 17 19 21 23 25
2 4 6 8 10 12 14 16 18 20 22 24 26

3.2 BLUETOOTH ASSY

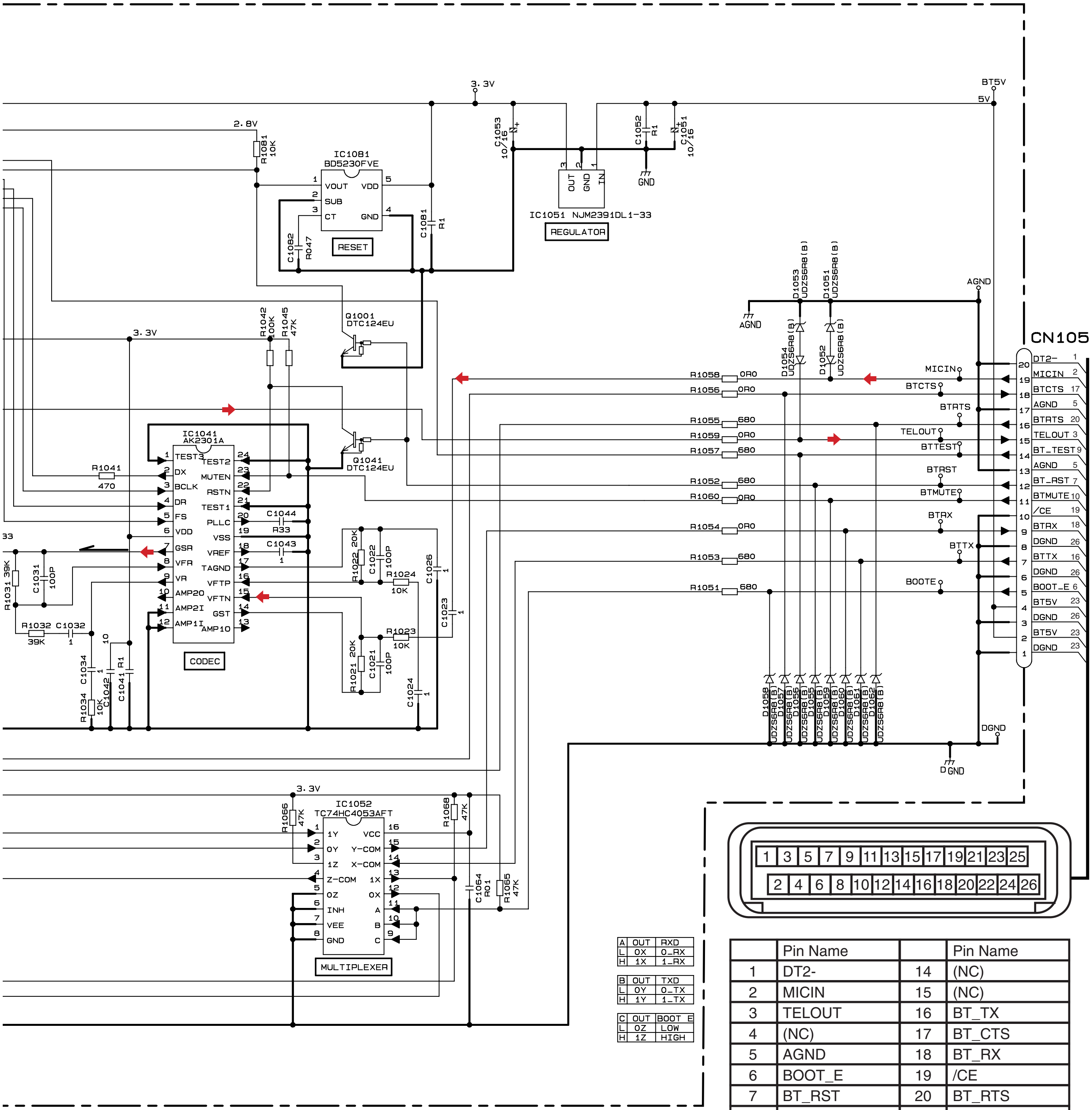
Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".

A BLUETOOTH ASSY


BOOT_E
R1009 47K
R1008 10K
R1006 10K
R1013 470
R1014 470
R1015 470
CLK
3.3V
240mA MAX
L1001
L1041
C1010 15P
RESETP
TRST
Y1001
CWX3131
UGZZ4-404A
Bluetooth MODULE
SIOF_SS2
SIOF_SS1
SIOF_SYNC
SIOF_MCLK
EXTAL2
XTAL2
SIOF_TXD
SIOF_RXD
SIOF_SCK
ASEMD0
PTE6
EXTAL
BRCLK
XTAL
PTE5
SCO_SYNC_OUT
SCO_CLK_OUT
SCO_RX_OUT
SCO_TX_IN
SCO_PWN
VCC
RREF
VCC_IO
CKIO
SCIF1_RTS
SCIF1_CTS
REG_STANDBY
SCIF1_TXD
SCIF1_RXD
PTH0
VCC_RF
REG_OUT
PTB0
PTB1
PTB2
PTB3
PTB4
PTB5
PTB6
PTB7
RF_I/O
PTG0
SCIF0_RXD
SCIF0_TXD
DA1
DA0
RTCSEL0
SCIF0_CTS
SCIF0_RTS
C1006 R1
C1007 10/16
R1004 10K
C1004 R1
CKIO 26MHz
C1005 4R7
1_RTS
1_CTS
R1003 680
R1002 0R0
1_RX
1_TX
C1003 R1
R1001 680
2.8V
C1001 100P
C1002 1
C1033 1
R1031 39K
C1031 100P
R104 470
R1032 39K
C1032 1
R1033 10K
C1034 1
R1034 10K
C1042
10
A GND
RFGND
RF GND
R1012 680
0_RX
0_TX
0_CTS
0_RTS
ANT1001
CTX1095
NC3
RF_I/O
GND
NC2
NC1
BLUETOOTH ANTENNA

NOT

A


3.3V
2.8V
R1081 10K
IC1081 BD5230FVE
VOUT VDD SUB CT GND
RESET
C1082 R047
C1081 R1
C1053 10/16
C1052 R1
C1051 10/16
IC1051 NJM2391DL1-33
OUT GND IN
REGULATOR
GND
BT5V
5V
AGND
D1053 UDZS6R8(B)
D1051 UDZS6R8(B)
D1054 UDZS6R8(B)
D1052 UDZS6R8(B)
Q1001 DTC124EU
Q1041 DTC124EU
R1042 10K
R1045 47K
IC1041 AK2301A
TEST3 DX BCLK DR FS VDD GSR VFR VR AMP2O AMP2I AMP1I
TEST2 MUTEN RSTN TEST1 PLLC VSS VREF TAGND VFTP VFTN GST AMP1O
CODEC
R1041 470
C1044 R33
C1043 1
R1031 39K
C1031 100P
R1032 39K
C1032 1
C1034 1
R1034 10K
C1042 1
C1041 R1
R1022 20K
C1022 100P
R1024 10K
C1026 1
C1023 1
R1021 20K
C1021 100P
R1023 10K
C1024 1
R1058 0R0
R1056 0R0
R1055 680
R1059 0R0
R1057 680
R1052 680
R1060 0R0
R1054 0R0
R1053 680
R1051 680
MICIN BTCTS BTRTS TELOUT BTTEST BTRST BTMUTE BTRX BTTX BOOTE
CN1051
DT2- MICIN BTCTS AGND BTRTS TELOUT BT_TEST AGND BT_RST BTMUTE /CE BTRX DGND BTTX DGND BOOT_E BT5V DGND BT5V DGND
D1058 D1057 D1056 D1055 D1059 D1060 D1061 D1062 UDZS6R8(B)
DGND
GND
IC1052 TC74HC4053AFT
1Y 0Y 1Z Z-COM 0Z INH VEE GND
VCC Y-COM X-COM 1X 0X A B C
MULTIPLEXER
R1066 47K
R1068 47K
C1064 R01
R1065 47K
1 3 5 7 9 11 13 15 17 19 21 23 25
2 4 6 8 10 12 14 16 18 20 22 24 26

A	OUT	RXD
L	0X	0_RX
H	1X	1_RX

B	OUT	TXD
L	0Y	0_TX
H	1Y	1_TX

C	OUT	BOOT E
L	0Z	LOW
H	1Z	HIGH

	Pin Name		Pin Name
1	DT2-	14	(NC)
2	MICIN	15	(NC)
3	TELOUT	16	BT_TX
4	(NC)	17	BT_CTS
5	AGND	18	BT_RX
6	BOOT_E	19	/CE
7	BT_RST	20	BT_RTS
8	(NC)	21	(NC)
9	BT_TEST	22	(NC)
10	BT_MUTE	23	BT5V
11	(NC)	24	(NC)
12	(NC)	25	(NC)
13	(NC)	26	DGND
		GNDE	GND

NOTE :

▭ Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

⊣⊢ Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

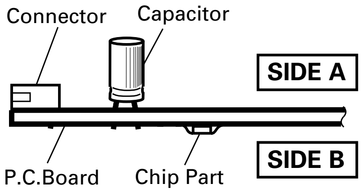
A

4. PCB CONNECTION DIAGRAM

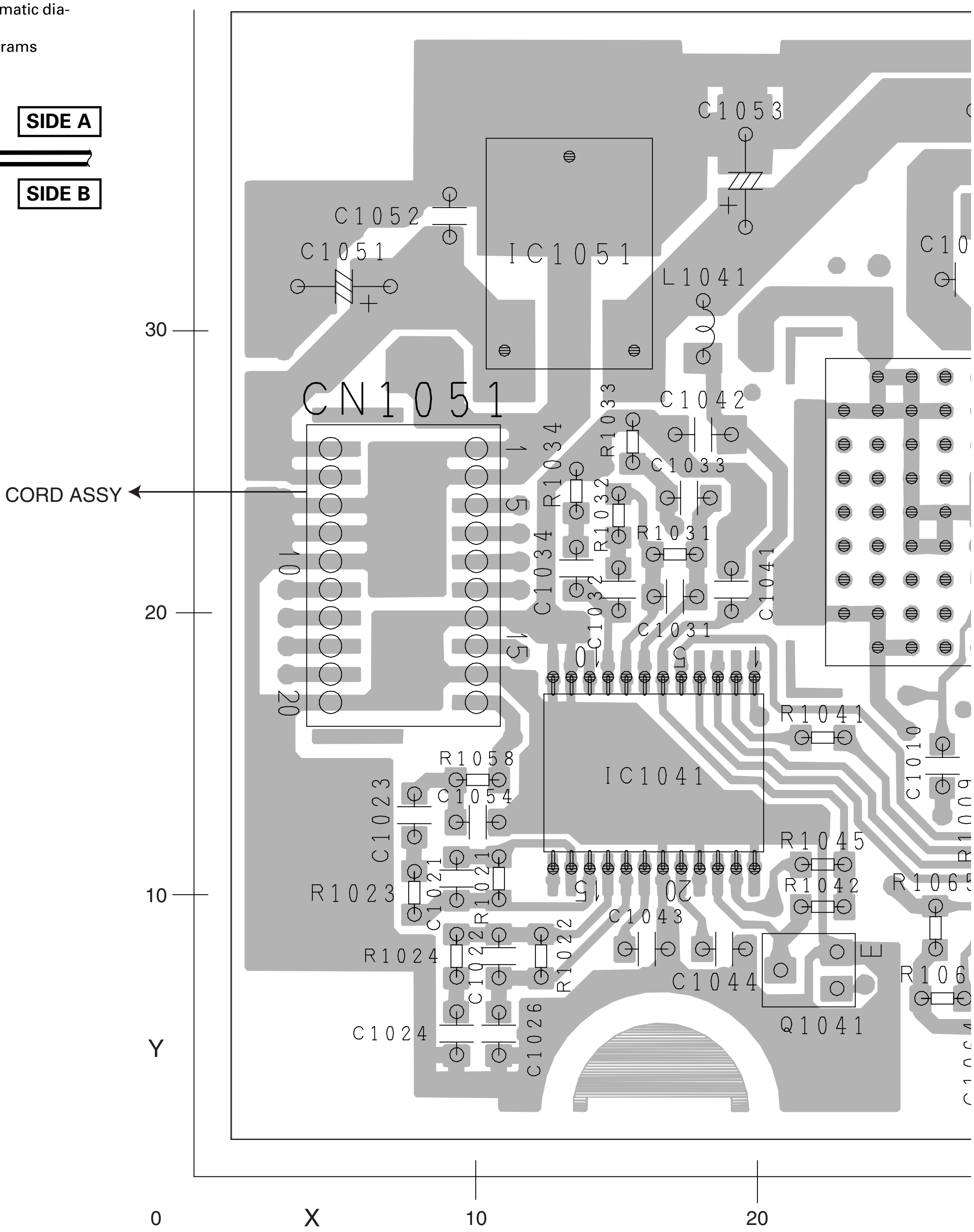
4.1 BLUETOOTH ASSY

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination. For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams

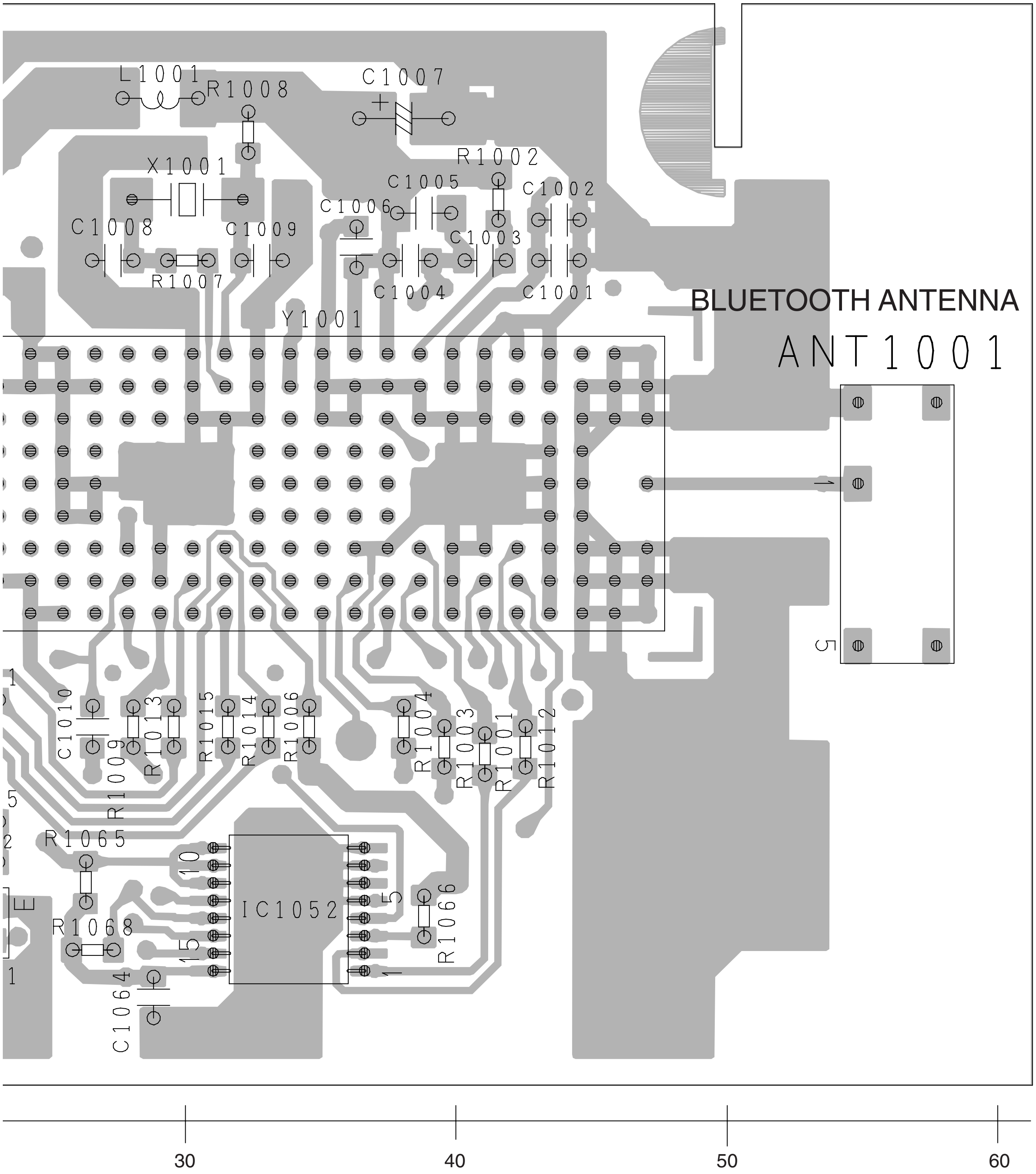

Connector
Capacitor
SIDE A
SIDE B
P.C.Board
Chip Part

A BLUETOOTH ASSY


CORD ASSY
C1053
C1052
C1051
IC1051
L1041
CN1051
C1042
R1033
R1034
C1033
R1032
R1031
C1034
C1032
C1041
C1031
1
5
10
15
20
R1041
C1010
R1058
C1054
IC1041
C1023
C1021
R1021
R1023
R1045
R1042
C1043
R1024
C1022
R1022
C1044
E
Q1041
C1024
C1026
30
20
10
Y
0
X
10
20

A

SIDE A



L1001
R1008
C1007
X1001
R1002
C1005
C1002
C1006
C1008
C1009
C1003
R1007
C1004
C1001
Y1001
BLUETOOTH ANTENNA
ANT1001
1
5
C1010
R1009
R1013
R1015
R1014
R1006
R1004
R1003
R1001
R1012
R1065
R1068
IC1052
10
15
5
1
R1066
C1064
30
40
50
60

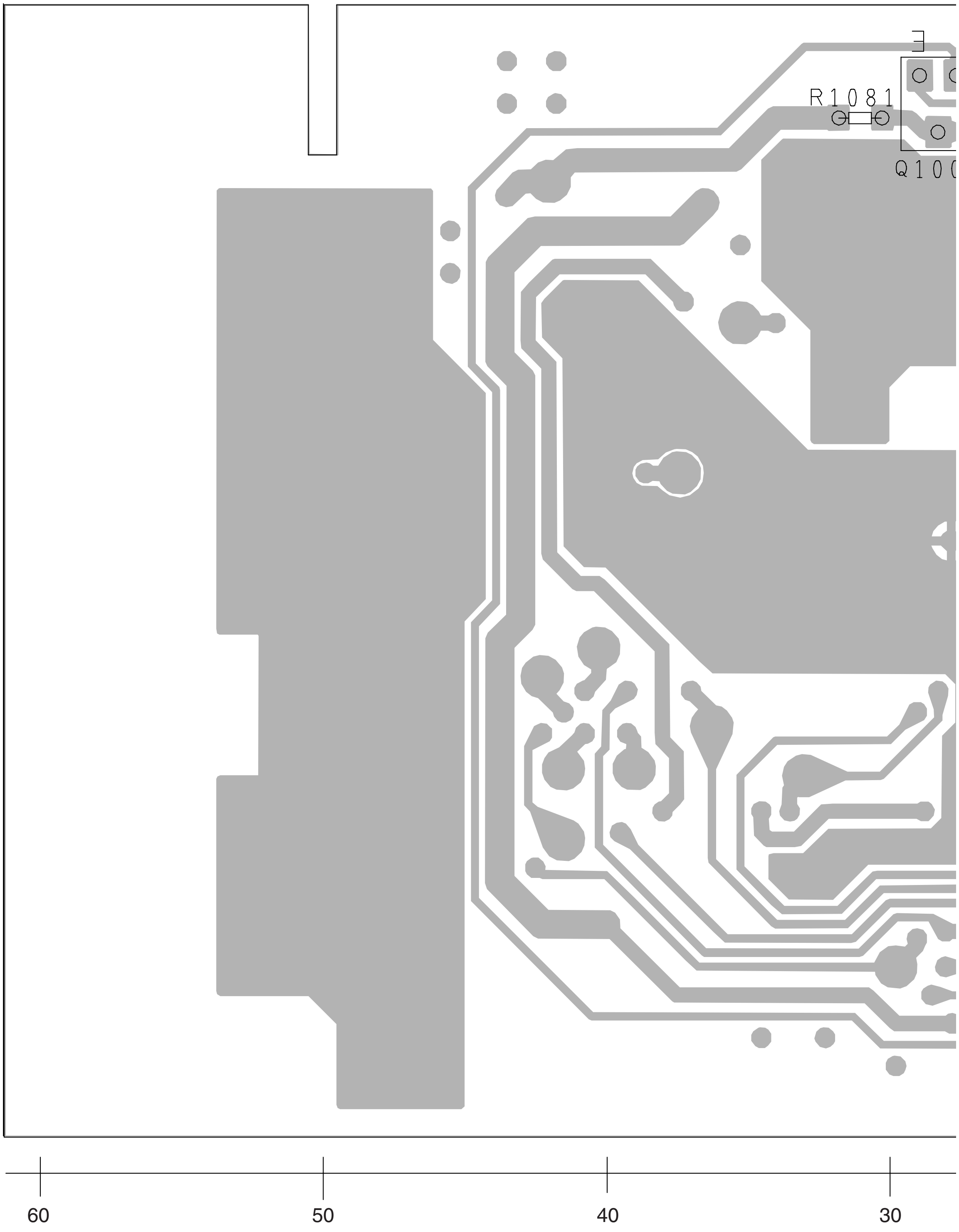
A

A

A BLUETOOTH ASSY

B

C

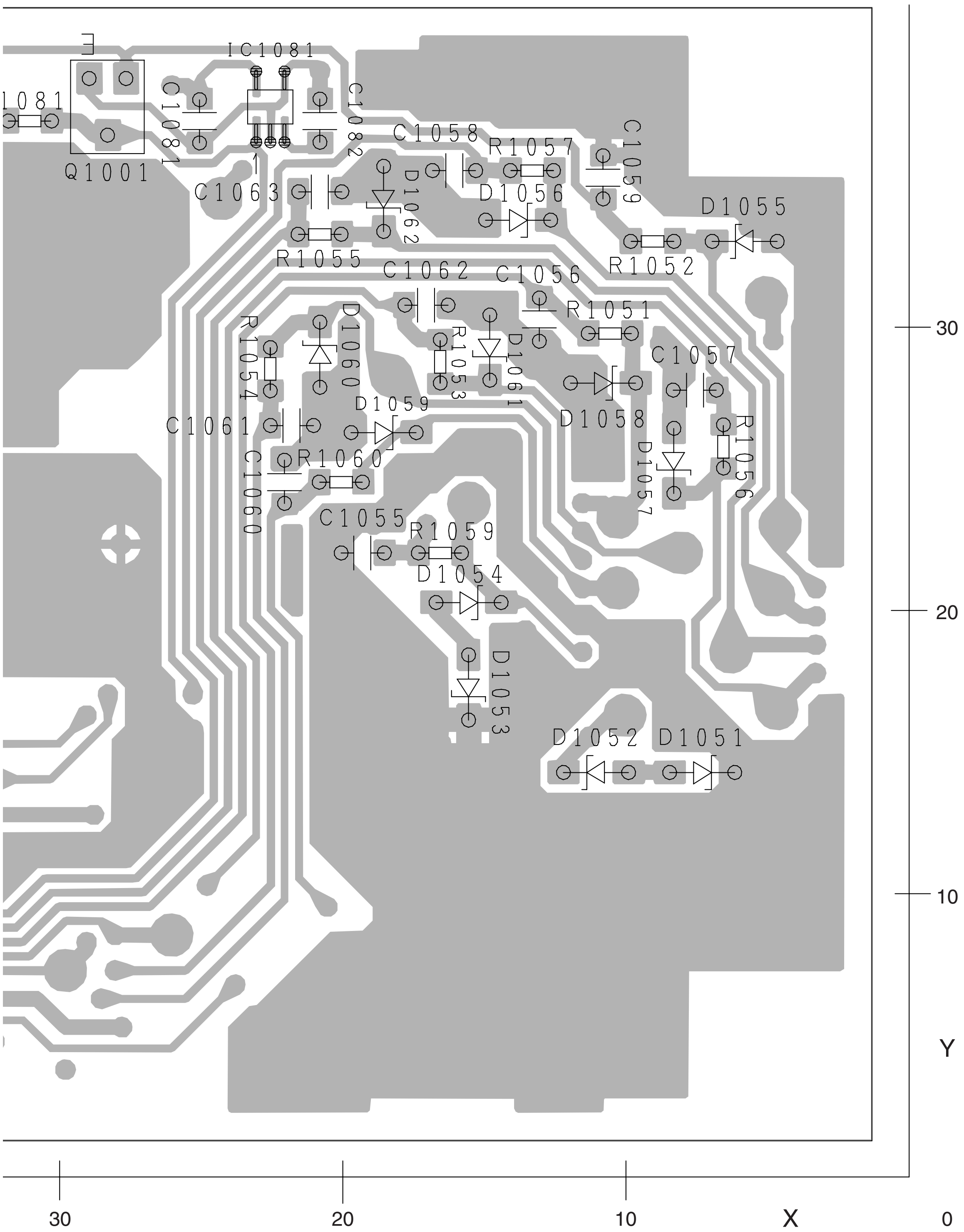

R1081
Q100
60
50
40
30

D

E

F

SIDE B


1081
Q1001
C1081
IC1081
C1082
C1058
R1057
C1059
C1063
D1062
D1056
D1055
R1055
R1052
C1062
C1056
R1051
R1054
D1060
R1053
D1061
C1057
D1059
D1058
C1061
R1056
D1057
R1060
C1060
C1055
R1059
D1054
D1053
D1052
D1051
30
20
10
Y
30
20
10
X
0

A
B
C
D
E
F

A

5. ELECTRICAL PARTS LIST

NOTE:

- *Parts whose parts numbers are omitted are subject to being not supplied.*
- *The part numbers shown below indicate chip components.*
  Chip Resistor
  RS1/○S○○○J,RS1/○○S○○○J
  Chip Capacitor (except for CQS.....)
  CKS....., CCS....., CSZS.....
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Meaning of the figures and others in the parentheses in the parts list.*
  Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
  IC 301 (A, 91, 111) IC NJM2068V

Circuit Symbol and No. **Part No.**

Unit Number : CWN1211
Unit Name : Bluetooth Assy

A
Unit Number : CWN1211
Unit Name : Bluetooth Assy

MISCELLANEOUS

Circuit Symbol and No.			Part No.
IC 1041	(A,16,14)	IC	AK2301A
IC 1051	(A,13,34)	IC	NJM2391DL1-33
IC 1052	(A,34,8)	IC	TC74HC4053AFT
IC 1081	(B,23,38)	IC	BD5230FVE
Q 1001	(B,28,38)	Transistor	DTC124EU
Q 1041	(A,22,7)	Transistor	DTC124EU
D 1051	(B,7,14)	Diode	UDZS6R8(B)
D 1052	(B,11,14)	Diode	UDZS6R8(B)
D 1053	(B,16,17)	Diode	UDZS6R8(B)
D 1054	(B,16,20)	Diode	UDZS6R8(B)
D 1055	(B,6,33)	Diode	UDZS6R8(B)
D 1056	(B,14,34)	Diode	UDZS6R8(B)
D 1057	(B,8,25)	Diode	UDZS6R8(B)
D 1058	(B,11,28)	Diode	UDZS6R8(B)
D 1059	(B,19,26)	Diode	UDZS6R8(B)
D 1060	(B,21,29)	Diode	UDZS6R8(B)
D 1061	(B,15,29)	Diode	UDZS6R8(B)
D 1062	(B,19,35)	Diode	UDZS6R8(B)
L 1001	(A,29,38)	Inductor	LCTAW1R0J3225
L 1041	(A,18,30)	Inductor	LCYC2R2K2125
Y 1001	(A,35,24)	BT Module	CWX3131
ANT1001	(A,56,21)	Antenna	CTX1095

RESISTORS

Circuit Symbol and No.		Part No.
R 1001	(A,41,14)	RS1/16S681J
R 1002	(A,42,34)	RS1/16S0R0J
R 1003	(A,40,14)	RS1/16S681J
R 1004	(A,38,15)	RS1/16S103J
R 1006	(A,35,15)	RS1/16S103J
R 1008	(A,32,37)	RS1/16S103J
R 1009	(A,28,15)	RS1/16S473J
R 1012	(A,43,14)	RS1/16S681J
R 1013	(A,30,15)	RS1/16S471J
R 1014	(A,33,15)	RS1/16S471J
R 1015	(A,32,15)	RS1/16S471J
R 1021	(A,11,11)	RS1/16S203J
R 1022	(A,12,8)	RS1/16S203J
R 1023	(A,8,10)	RS1/16S103J
R 1024	(A,9,8)	RS1/16S103J
R 1031	(A,17,22)	RS1/16S393J
R 1032	(A,15,23)	RS1/16S393J
R 1033	(A,16,26)	RS1/16S103J
R 1034	(A,14,24)	RS1/16S103J
R 1041	(A,22,16)	RS1/16S471J
R 1042	(A,22,10)	RS1/16S104J
R 1045	(A,22,11)	RS1/16S473J
R 1051	(B,11,30)	RS1/16S681J
R 1052	(B,9,33)	RS1/16S681J
R 1053	(B,17,29)	RS1/16S681J
R 1054	(B,23,29)	RS1/16S0R0J
R 1055	(B,21,33)	RS1/16S681J
R 1056	(B,7,26)	RS1/16S0R0J
R 1057	(B,13,36)	RS1/16S681J
R 1058	(A,10,14)	RS1/16S0R0J
R 1059	(B,17,22)	RS1/16S0R0J
R 1060	(B,20,25)	RS1/16S0R0J
R 1065	(A,26,9)	RS1/16S473J
R 1066	(A,39,8)	RS1/16S473J
R 1068	(A,27,6)	RS1/16S473J
R 1081	(B,31,37)	RS1/16S103J

CAPACITORS

Circuit Symbol and No.		Part No.
C 1001	(A,44,32)	CCSRCH101J50
C 1002	(A,44,33)	CKSRYB105K10
C 1003	(A,41,32)	CKSRYB104K16
C 1004	(A,38,32)	CKSRYB104K16
C 1005	(A,39,34)	CKSQYB475K6R3
C 1006	(A,36,32)	CKSRYB104K16
C 1007	(A,38,37)	CEVW100M16
C 1010	(A,27,15)	CCSRCH150J50

Circuit Symbol and No.		Part No.
C 1021	(A,9,11)	CCSRCH101J50
C 1022	(A,11,8)	CCSRCH101J50
C 1023	(A,8,13)	CKSRYB105K10
C 1024	(A,9,5)	CKSRYB105K10
C 1026	(A,11,5)	CKSRYB105K10
C 1031	(A,17,21)	CCSRCH101J50
C 1032	(A,15,21)	CKSRYB105K10
C 1033	(A,18,24)	CKSRYB105K10
C 1034	(A,14,22)	CKSRYB105K10
C 1041	(A,19,21)	CKSRYB104K16
C 1042	(A,18,26) 10 μF	CCG1171
C 1043	(A,16,8)	CKSRYB105K10
C 1044	(A,19,8)	CKSRYB334K10
C 1051	(A,5,32)	CEVW100M16
C 1052	(A,9,34)	CKSRYB104K16
C 1053	(A,20,35)	CEVW100M16
C 1056	(B,13,30)	CCSRCH101J50
C 1064	(A,29,5)	CKSRYB103K50
C 1081	(B,25,37)	CKSRYB104K16
C 1082	(B,21,37)	CKSRYB473K50

6. ADJUSTMENT

6.1 BLUETOOTH TEST MODE

● Bluetooth Test Mode (when using BT Built-in mobile phone)

0. Specifications for BT Built-in mobile phone

A mobile phone supporting Bluetooth Ver.1.1 and mounting HFP and OPP is required.
Models with which connection has been verified are recommended.
*HFP : **H**ands-**F**ree **P**rofile, OPP : **O**bject **P**ush **P**rofile

Recommneded mobile phone model;
for AVIC-HD1BT/EW5 (ND-BT1/E5)
- SonyEricsson S700i/K750i

for AVIC-Z1/UC + ND-BT1/E5
- AUDIOVOX SMT5600
Notes: SMT5600 is not possible to transfer whole address book at a time.
It can be transfered one by one on this model.

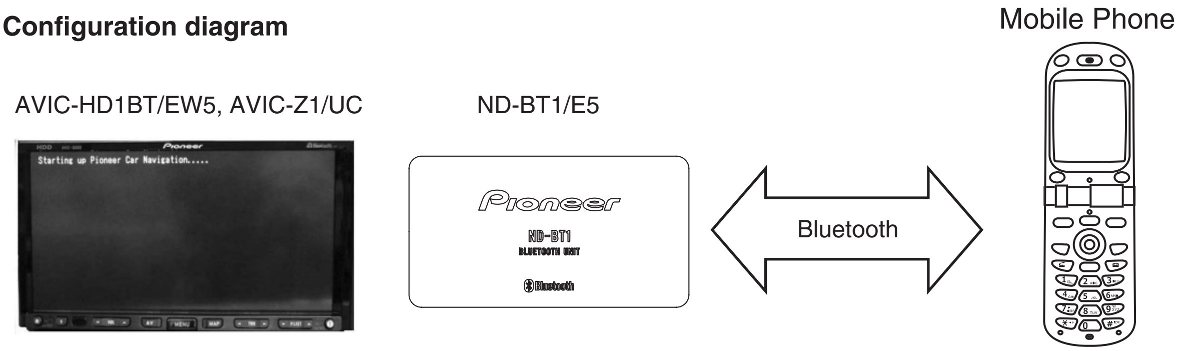
1. Caution

*This is a precaution for the case where the mobile phone is actually connected at the serviced site.
For AVIC-HD1BT/EW5 and AVIC-Z1/UC, up to 5 sets of Bluetooth units can be registered.
When more than 5 sets are tried to be registered, the 6th set and beyond will be overwritten. (Overwriting will be made by selecting the model number to be overwritten.)
In the case of overwriting, be careful as the device information stored by the user will be deleted.

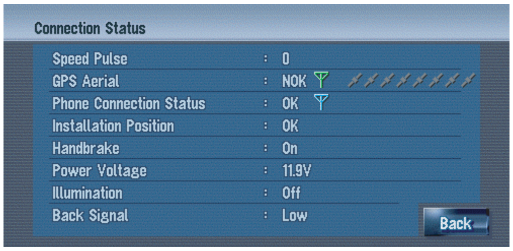
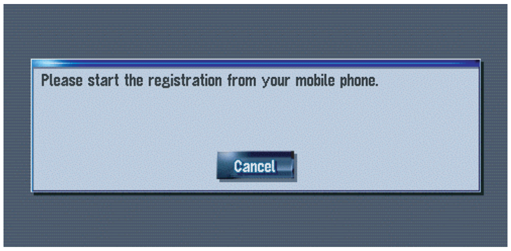
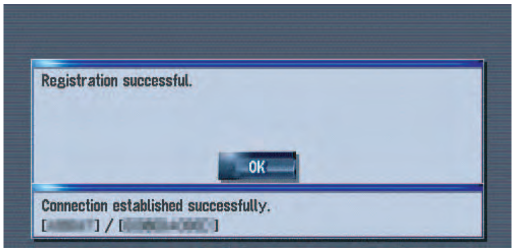
2. Outline of functions

When checking the operation using the BT built-in mobile phone, check the connection under the normal operation.
- Checking of Bluetooth connection (authentication connection and voice connection)
- Checking of Bluetooth antenna sensitivity (connection)

3. Configuration diagram



4. Procedure for checking

Display	Operation Method
 Connection Status Speed Pulse : 0 GPS Aerial : NOK Phone Connection Status : OK Installation Position : OK Handbrake : On Power Voltage : 11.9V Illumination : Off Back Signal : Low 	ND-BT1/E5 will be connected to the connectable product, and start. Select [Menu]→[Settings]→[Hardware]→[Conection Status]. Make sure on the left screen that the items under Phone Connection Status are indicating [OK]. In this case, because registration of the BT telephone has not been completed, level indication of the antenna bar is not displayed even though the status is indicated as OK. * In the case of NOK, possible case is poor connection between ND-BT1/E5 and navigation product or failure of the wired section of ND-BT1/E5.
↓	
 Please start the registration from your mobile phone. 	Select [Menu]→[Info/Phone]→[Phone Menu]→[Phone Settings]→[Registration]→[Mobile]. Search for the Bluetooth device and enter the passkey by operating the mobile telephone. * In case the device name is not displayed in Bluetooth device search, the possible cause is the failure of the wireless section of ND-BT1/E5.
↓	
 Registration successful. Connection established successfully. [[redacted]] / [[redacted]]	When the connection with the BT telephone is completed, the screen as shown on the left will be displayed. Antenna bar will be displayed on the [Conection Status] screen. When the connection is successfully established, conduct speech test and check the voice transmission and reception.

● Bluetooth Test Mode (using spectrum analyzer)

1. Cautions

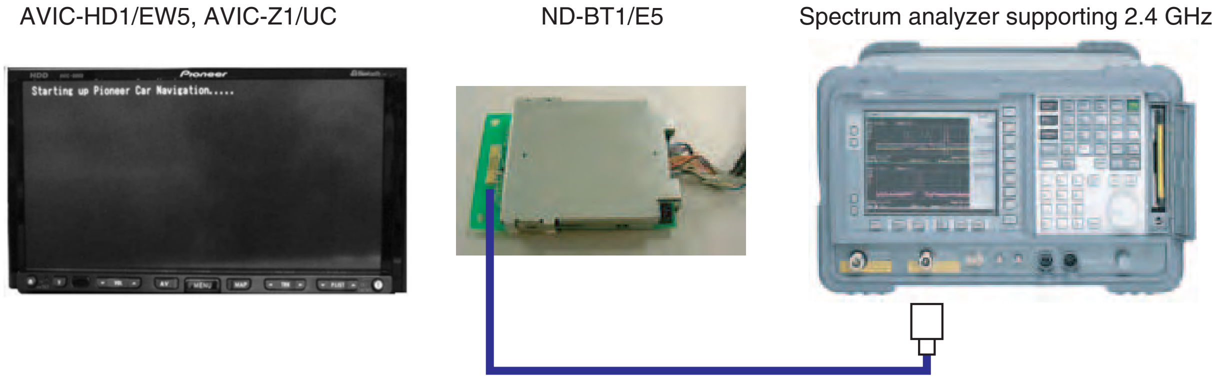
If there is a spectrum analyzer supporting 2.4 GHz at the service site, confirmation of transmission carrier becomes possible.
Since ND-BT1/E5 cannot operate singly, the AVIC-HD1/EW5 or AVIC-Z1/UC is required.

Carrier existence is checked by removing the product case and applying the probe onto the "ANT" land of the base unit.
Since it is done by probe connection, the level cannot be confirmed accurately.

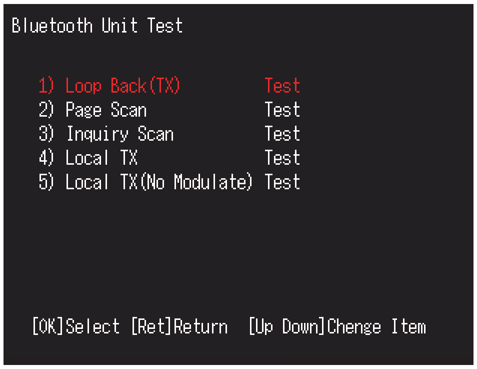
2. Function outline

Simple operation check on Bluetooth is executed in test mode using a spectrum analyzer supporting 2.4 GHz.
Output check on Bluetooth unit

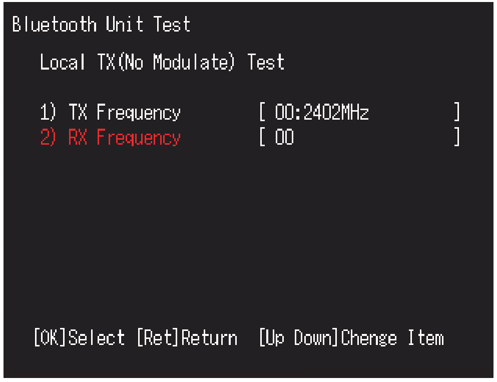
3. Configuration diagram


AVIC-HD1/EW5, AVIC-Z1/UC
Starting up Pioneer Car Navigation.....
ND-BT1/E5
Spectrum analyzer supporting 2.4 GHz

4. Procedure for test mode startup

Display	Operation Method
 Bluetooth Unit Test 1) Loop Back(TX) Test 2) Page Scan Test 3) Inquiry Scan Test 4) Local TX Test 5) Local TX(No Modulate) Test [OK]Select [Ret]Return [Up Down]Chenge Item ↓	Enter the test mode using a product connectable to ND-BT1/E5. When the test screen is displayed, select [Bluetooth Unit Test] from the menu. 1) Loop Back(TX) Test (Not used for servicing.) 2) Page Scan Test (Not used for servicing.) 3) Inquily Scan Test (Not used for servicing.) 4) Local TX Test (Not used for servicing.) 5) Local TX(No Modulated) Test (Not used for servicing.) 5) Select Local TX(No Modulated) Test.

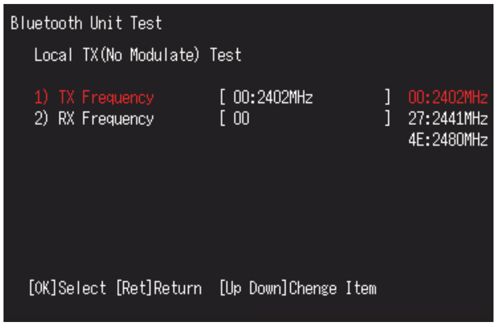
Display	Operation Method



```
Bluetooth Unit Test
   Local TX(No Modulate) Test

   1) TX Frequency          [ 00:2402MHz         ]
   2) RX Frequency          [ 00                 ]



  [OK]Select [Ret]Return  [Up Down]Chenge Item
```

Bring the cursor to [TX Frequency], and push [OK] button.

↓

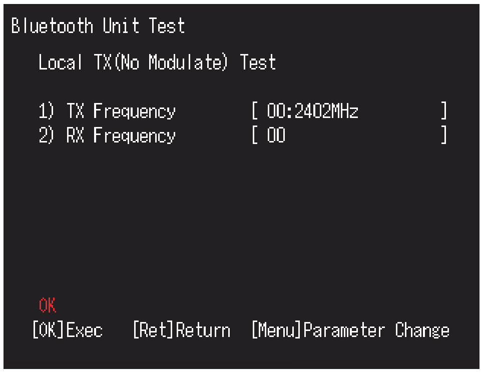


```
Bluetooth Unit Test
   Local TX(No Modulate) Test

   1) TX Frequency      [ 00:2402MHz        ]  00:2402MHz
   2) RX Frequency      [ 00                ]  27:2441MHz
                                               4E:2480MHz



  [OK]Select [Ret]Return  [Up Down]Chenge Item
```

As the selectable frequencies will be displayed on the right side of the screen, bring the cursor by using up/down cursor and push [OK] button.

00 : 2 402 MHz	(default value)
27 : 2 441 MHz	
4E : 2 480 MHz	

↓



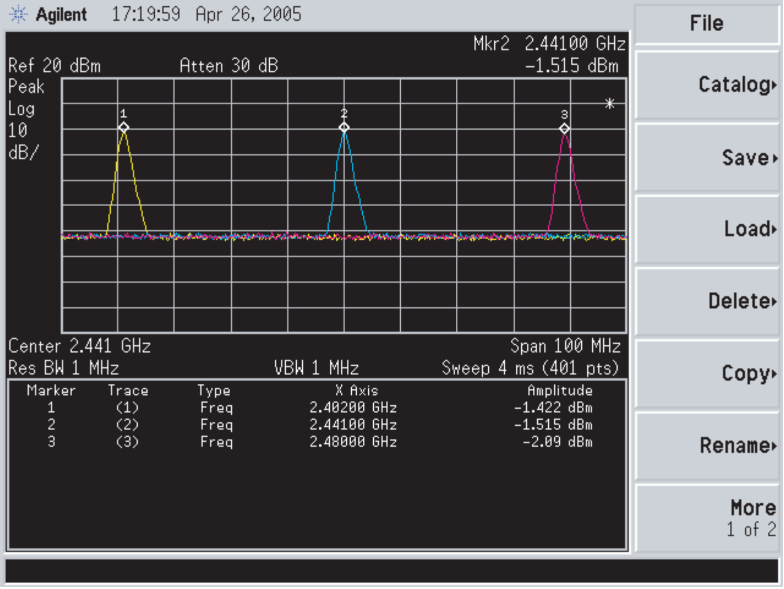
```
Bluetooth Unit Test
   Local TX(No Modulate) Test

   1) TX Frequency          [ 00:2402MHz         ]
   2) RX Frequency          [ 00                 ]



   OK
  [OK]Exec    [Ret]Return  [Menu]Parameter Change
```

Press [Ret] key to return to the top screen of Local TX (No Modulated) Test.
* On the top screen, " [OK] Exec " is displayed on the lower left position of the screen.

Push [OK] button on the top screen, and take measurement using a spectrum analyzer.

Apply a probe to [ANT] land on the PCB, and check if any carrier is displayed at the designated frequency band. Furthermore, make sure that carrier is displayed at each of the three bands.

↓



```
Agilent   17:19:59  Apr 26, 2005
                                         Mkr2  2.44100 GHz
Ref 20 dBm         Atten 30 dB                 -1.515 dBm
Peak
Log
10
dB/
Center 2.441 GHz                                Span 100 MHz
Res BW 1 MHz              VBW 1 MHz    Sweep 4 ms (401 pts)
 Marker   Trace    Type      X Axis          Amplitude
   1       (1)     Freq    2.40200 GHz       -1.422 dBm
   2       (2)     Freq    2.44100 GHz       -1.515 dBm
   3       (3)     Freq    2.48000 GHz       -2.09 dBm
```

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 DISASSEMBLY

● Removing the Case (Fig.1)

1 Remove the four screws by tolcs driver (GGK1072) and then remove the Case.

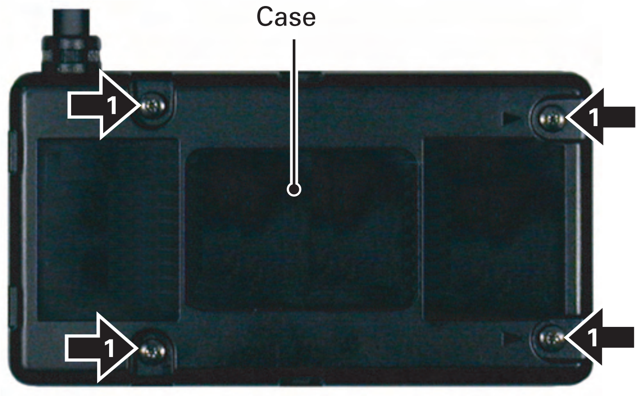


Fig.1

● Removing the Bluetooth Assy (Fig.2)

1 Remove the solder.

Remove the Bluetooth Assy.

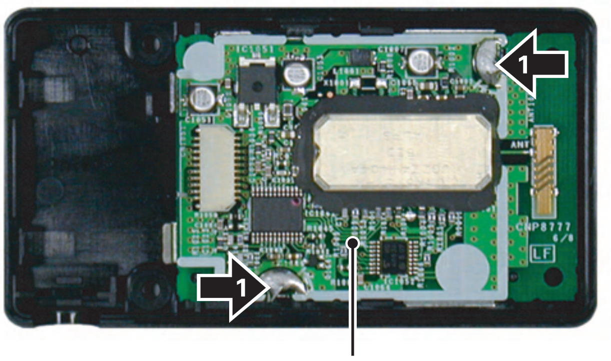
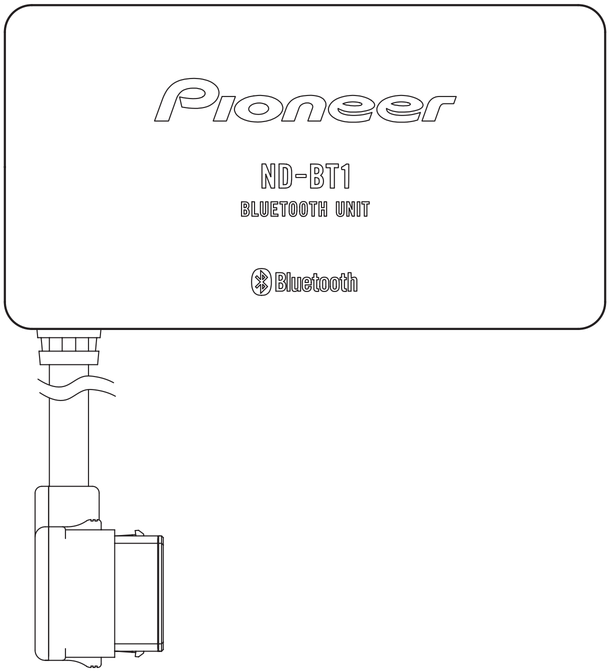
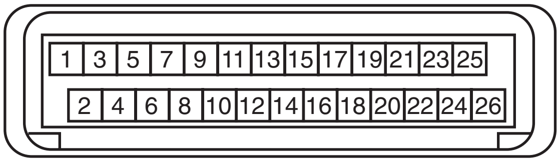


Fig.2

7.1.2 CONNECTOR FUNCTION DESCRIPTION


Pioneer
ND-BT1
BLUETOOTH UNIT
Bluetooth

TO NAVIGATION UNIT

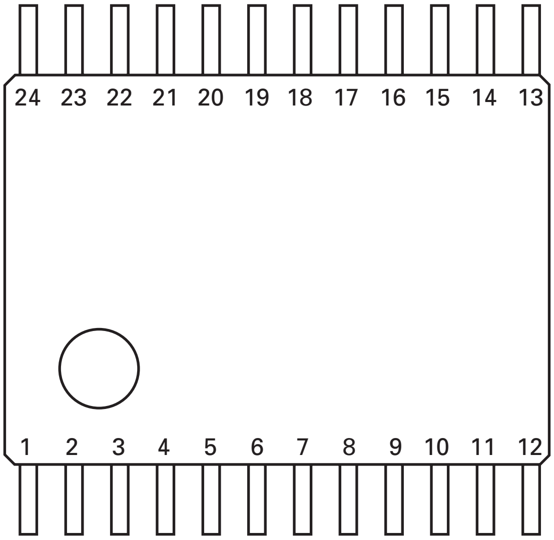

1 3 5 7 9 11 13 15 17 19 21 23 25
2 4 6 8 10 12 14 16 18 20 22 24 26

	Pin Name		Pin Name
1	DT2-	14	(NC)
2	MICIN	15	(NC)
3	TELOUT	16	BT_TX
4	(NC)	17	BT_CTS
5	AGND	18	BT_RX
6	BOOT_E	19	/CE
7	BT_RST	20	BT_RTS
8	(NC)	21	(NC)
9	BT_TEST	22	(NC)
10	BT_MUTE	23	BT5V
11	(NC)	24	(NC)
12	(NC)	25	(NC)
13	(NC)	26	DGND
		GNDE	GND

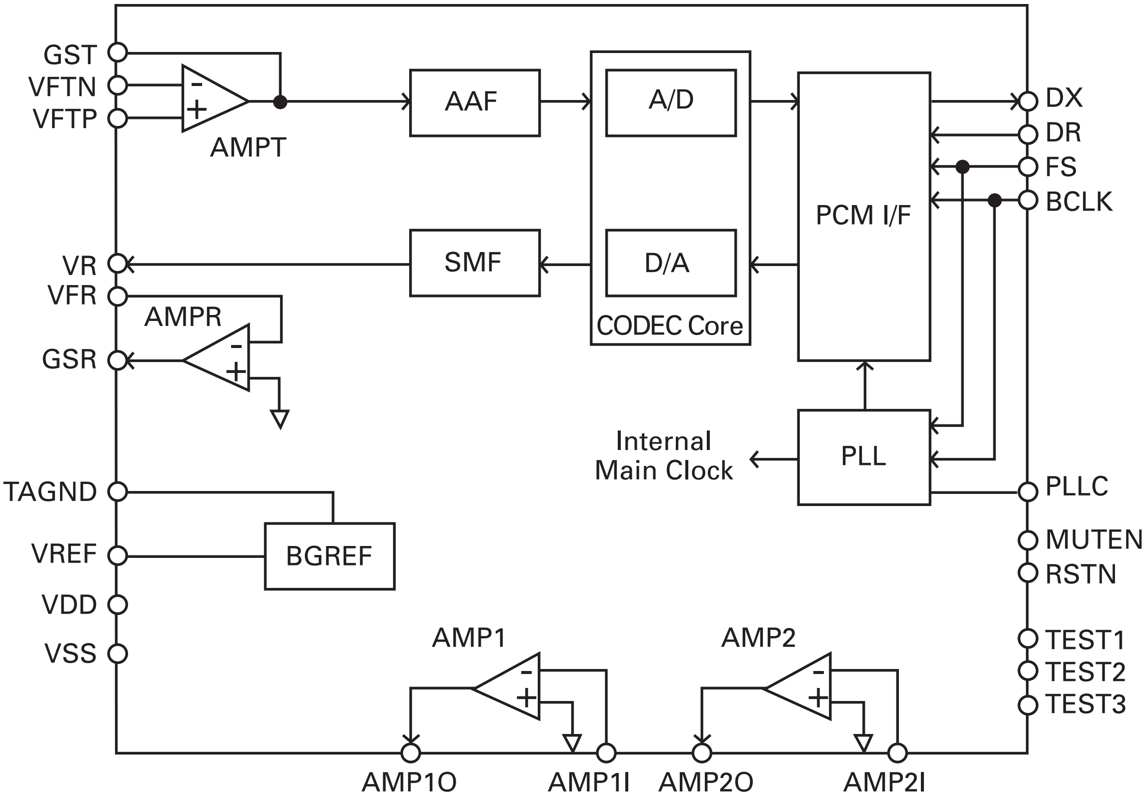
7.2 IC

AK2301A

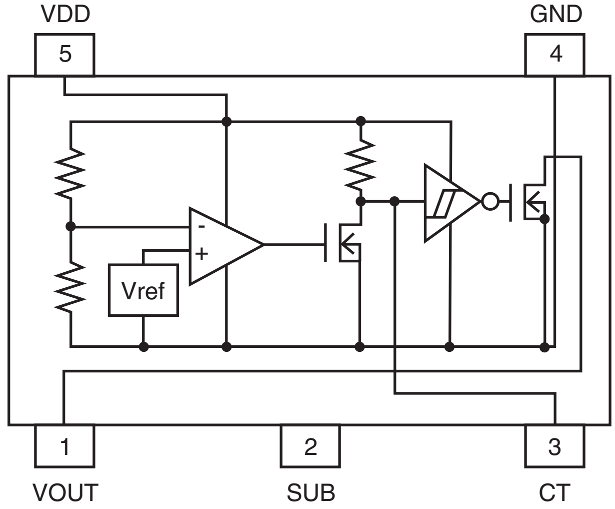
● Pin Layout


24
23
22
21
20
19
18
17
16
15
14
13
1
2
3
4
5
6
7
8
9
10
11
12

● Block Diagram


GST
VFTN
VFTP
AMPT
AAF
A/D
PCM I/F
DX
DR
FS
BCLK
VR
VFR
AMPR
GSR
SMF
D/A
CODEC Core
Internal
Main Clock
PLL
PLLC
TAGND
BGREF
VREF
VDD
VSS
MUTEN
RSTN
TEST1
TEST2
TEST3
AMP1
AMP2
AMP1O
AMP1I
AMP2O
AMP2I

BD5230FVE


VDD
5
GND
4
-
+
Vref
1
2
3
VOUT
SUB
CT

8. OPERATIONS

About this unit

This unit is used to connect a Bluetooth enabled cellular phone to a Pioneer HDD Navigation System.

About Bluetooth

Bluetooth is a short-range wireless radio connectivity technology that is developed as a cable replacement for cellular phones, handheld PCs and other devices. Bluetooth operates in 2.4 GHz frequency range and transmits voice and data at speeds up to 1 megabit per second. Bluetooth was launched by a special interest group (SIG) that comprises of Ericsson Inc., Intel Corp., Nokia Corp., Toshiba and IBM in 1998, and it is currently developed by nearly 2 000 companies worldwide.

- The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Pioneer Corporation is under license. Other trademarks and trade names are those of their respective owners.

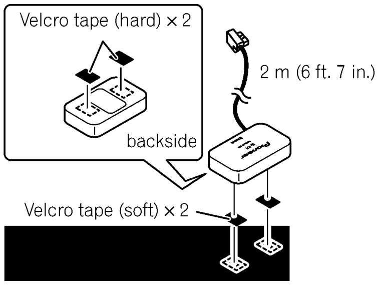
Operating environment

This unit should be used within the temperature ranges shown below.

Operating temperature range : -10 to +60 °C (14 to 140 °F)
EN300328 ETC test temperature : -20 and +55 °C (-4 and 131 °F)

- The line-of-sight distance between this unit and your cellular phone must be 10 meters or less in sending and receiving voice and data via Bluetooth technology. However, the transmission distance may become shorter than the estimated distance, depending on the environment in use.
- There are some Bluetooth enabled cellular phones that can be incompatible with this unit due to their Bluetooth version.
- The performance test of this unit with all Bluetooth enabled cellular phones is not conducted. Also, it is not guaranteed that this unit can be connected to all Bluetooth enabled cellular phones.
- About the Bluetooth profile and its overview
  It is required that the Bluetooth enabled cellular phone to be connected to this unit is implemented with the same profile.
  HFP (Hands Free Profile): the profile used for hands-free calling
  OPP (Object Push Profile): the profile used for transferring data such as address books

Installation notes



- This unit may be installed in relatively unnoticeable positions such as the passenger seat floor, however, before fixing the unit, check the reception condition of the Bluetooth unit with the setup-status monitor of navigation system.
- Referring to Operation Manual included in navigation system, check the connection and fine-tune the reception of this unit.
- Thoroughly wipe off the surface before affixing the velcro tape.
- Do not install the unit where it may (i) obstruct the driver's vision, (ii) impair the performance of any of the vehicle's operating systems or safety features, including air bags, hazard lamp buttons or (iii) impair the driver's ability to safely operate the vehicle.
- When disconnecting a connector, pull the connector itself. Do not pull the lead, as you may pull it out of the connector.
- Do not install the unit in places where it may become subject to high temperatures or humidity, such as:
  * Places close to a heater outlet.
  * Places exposed to direct sunlight, such as on top of the dashboard or the rear shelf.
- Places that may be splashed by rain, for example close to the door.
- Use supplied velcro tapes to secure the unit so that it doesn't move. It is extremely dangerous if cords are exposed on the floor as they may become entangled with the brake pedal etc. Hide cords so that they do not get in the way when you are driving.
- Do not disassemble or modify this unit. To do so may cause a fault.

A

B

C

D

E

F

Jigs List

Name	Jig No.	Remarks
Torques screwdriver	GGK1072	Torques screwdriver(T6)

Pioneer sound.vision.soul

Service Manual

ORDER NO.
CRT3056

DVD MECHANISM MODULE(MS3)

CX-3016

- **This service manual describes the operation of the DVD mechanism modules incorporated in the models listed below.**
- **When performing repairs use this manual together with the specific manual for the model under repair.**
- **The DVD mechanism MS3 has VIDEO-type and ROM-type models. This manual covers the operations for both models.**

Model	Service Manual	DVD Mechanism Module
AVH-P6500DVD/UC	CRT3038	CXK6310
DVH-P5000MP/UC	CRT3074	CXK6312
AVH-P7500DVD/UC	CRT3039	CXK6300

CONTENTS

1. CIRCUIT DESCRIPTIONS 2
2. MECHANISM DESCRIPTIONS................................15
3. DISASSEMBLY 20

PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

© **PIONEER CORPORATION 2003**

K-ZZU. APR. 2003 Printed in Japan

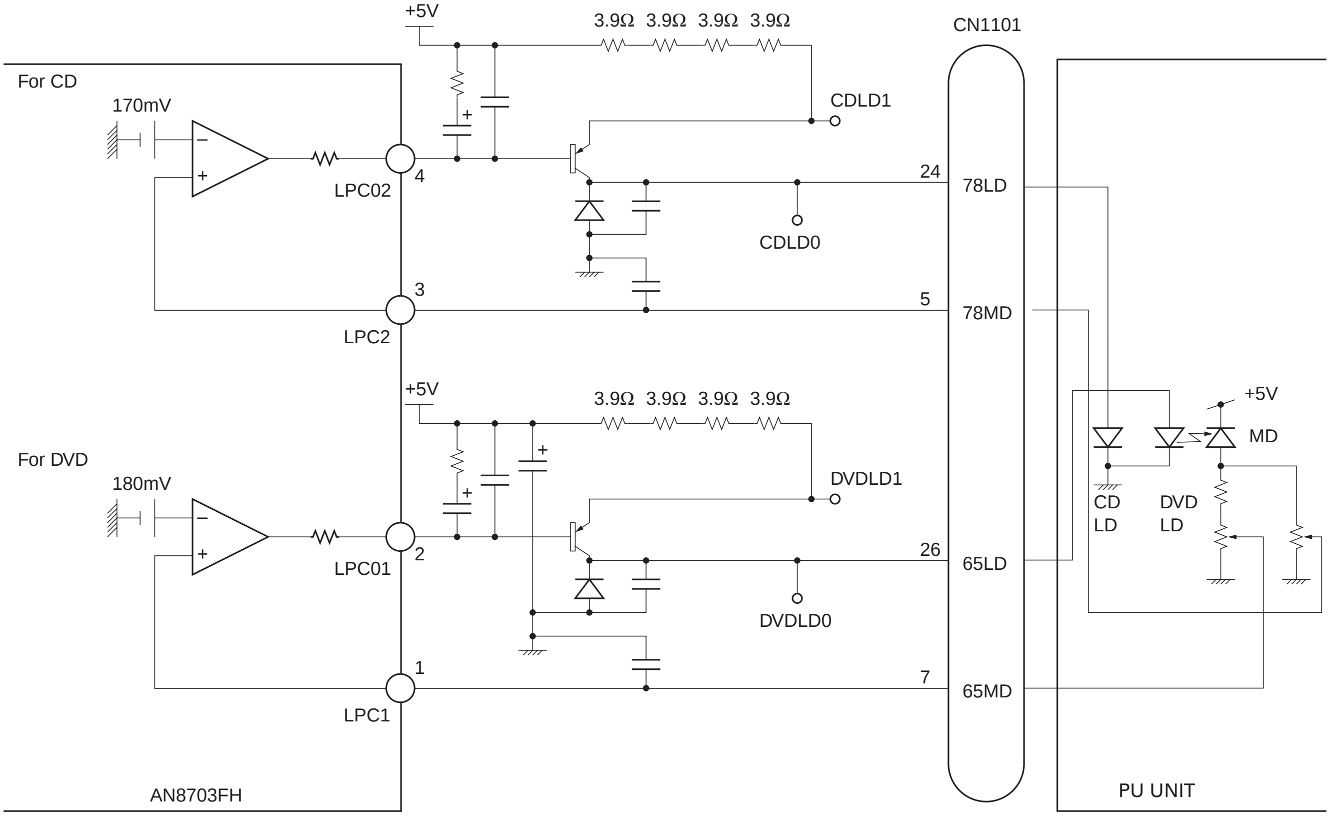
1.Circuit descriptions

1.1 Front-end processor (FEP) section (AN8703FH: IC1101)

The IC1101 generates servo signals for focus and tracking operations, processes the RF signal, and controls the laser power of the pickup.

For servo signal processing, the IC contains a focus operational amplifier, a focus balance adjustment circuit, a three-beam tracking operational amplifier, a phase-difference tracking detection circuit, a tracking balance adjustment circuit, and an envelope detection circuit.

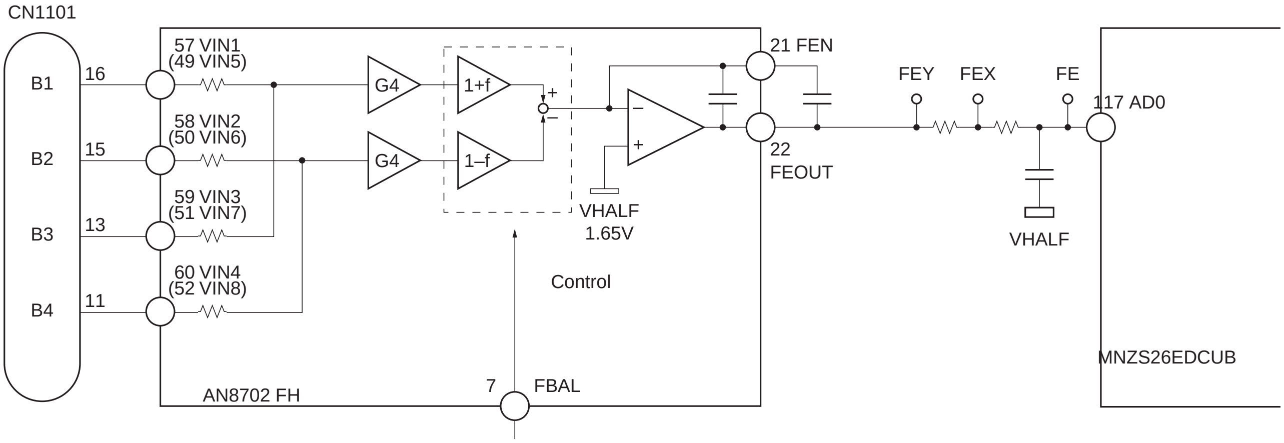
For the RF signal processing, the AGC and equalizer functions are contained in the IC.


+5V
3.9Ω 3.9Ω 3.9Ω 3.9Ω
CN1101
For CD
170mV
CDLD1
LPC02
4
24
78LD
CDLD0
3
5
78MD
LPC2
+5V
3.9Ω 3.9Ω 3.9Ω 3.9Ω
+5V
MD
For DVD
180mV
DVDLD1
CD LD
DVD LD
LPC01
2
26
65LD
DVDLD0
1
7
65MD
LPC1
AN8703FH
PU UNIT

1.1.1 APC circuit

The light output of laser diodes (LD) has largely negative thermal characteristics. If they are driven with a constant current, the laser power level will not be constant. The APC circuit is designed to control the current so that the laser power becomes constant through the monitor diode (MD). The IC AN8703FH contains two APC circuits, one for DVDs and the other for CDs. The LD current values for DVDs can be calculated by dividing the voltage between the DVDLD1 (or CDLD1 for CDs) and 5V line by 15.6 ohms (3.9 ohms x 4): approximately 26mA and 44mA for DVDs and CDs respectively.

1.1.2 Focus error (FE) generating circuit


CN1101
B1
B2
B3
B4
16
15
13
11
57 VIN1
(49 VIN5)
58 VIN2
(50 VIN6)
59 VIN3
(51 VIN7)
60 VIN4
(52 VIN8)
G4
G4
1+f
1–f
+
–
VHALF
1.65V
Control
21 FEN
22
FEOUT
FEY
FEX
FE
117 AD0
VHALF
MNZS26EDCUB
AN8702 FH
7
FBAL

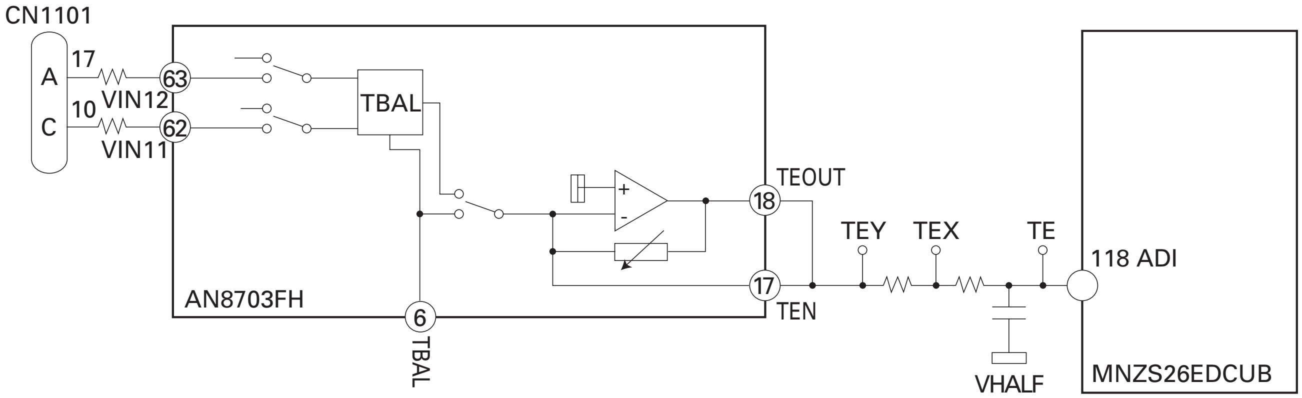
The pin numbers and names in the brackets are for CDs. The circuits for CDs and DVDs are identical, except for the input terminals of the signals B1 through B4.

Focus error (FE) generating circuit

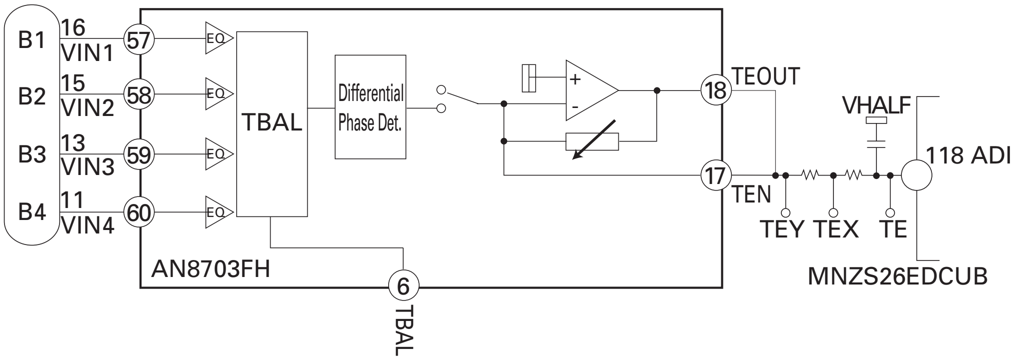
The signals B1 through B4, obtained by dividing the output in the pickup, are applied to the FE generating circuit. Inside the circuit, the (B1 + B3) and (B2 + B4) signals are generated via the internal resistors, fed into the variable amplifier for the focus balance adjustment, and finally the FE signal is generated by amplifying the {(B1 + B3) – (B2 + B4)} signal.

1.1.3 Tracking error (TE) generating circuit

- CD (three-beam TE)


CN1101
A
C
17
10
VIN12
VIN11
63
62
TBAL
AN8703FH
6
TBAL
TEOUT
18
17
TEN
TEY
TEX
TE
VHALF
118 ADI
MNZS26EDCUB

· DVD (phase difference TE)


B1
B2
B3
B4
16
VIN1
15
VIN2
13
VIN3
11
VIN4
57
58
59
60
EQ
TBAL
Differential Phase Det.
AN8703FH
6
TBAL
TEOUT
18
17
TEN
VHALF
118 ADI
TEY TEX TE
MNZS26EDCUB

Tracking error (TE) generating circuit

For DVDs, the TE signal is generated by utilizing the phase difference between the (B2 + B4) and (B1 + B3) signals (the phase difference method).

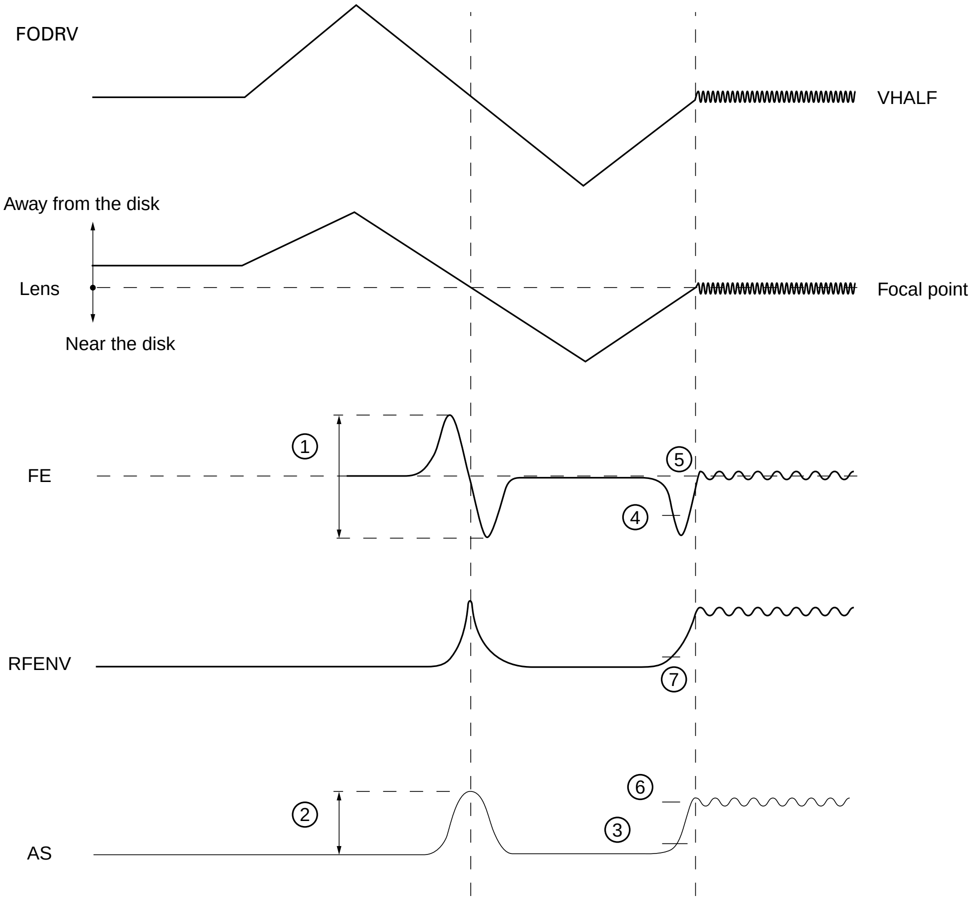
For CDs, the A and C signals are applied to the TE generating circuit via the external resistors. Inside the circuit the signals are fed to the variable amplifier for the tracking balance adjustment, and finally the TE signal is obtained by amplifying the (A – C) signal (the three-beam method).

1.2 Optical disc controller (SODC) section (MNZS26EDCUB: IC1301)

The IC1301, an optical disc controller (SODC) for DVD-ROM/DVD players, is one of a signal processing LSI conforming to the DVD standards.

This IC works as a servo controller for the focus, tracking and traverse operations, a spindle motor controller, a seek controller, a digital signal processor for DVD-ROM/RAM reproduction (8/6 demodulation and error correction), and a digital signal processor for CD-ROMs (error correction). In the DSC (Disc Servo Controller) employing an arithmetic processor as a core, analog circuits such as A/D and D/A converters and PLL, and digital circuits including a PWM converter and a cycle timer are contained. In the CIRC, a digital signal processor for CD-DA and CD-ROMs (EFM demodulation and error correction), a spindle motor digital servo processor, and a 1-bit D/A converter with a digital filter (with a secondary low-pass filter, differential OP amplifier output) are prepared. This LSI has easily realized a complete CD/DVD-ROM system.

1.2.1 Focus close



After a focus close command is issued, the following procedures are performed irrespective of DVDs and CDs:

1. Measuring and optimizing the signal levels

The pickup lens initially moves away from the disc, and then toward the disc. When the pickup lens passes the focal point, the FE, AS and RFENV signal levels are measured to optimize the FE and AS signal levels (1 and 2 shown in the above diagram).

2. Focus closing

Next, the pickup lens moves away from the disc to detect the focus closing levels for FE and AS signals. The focus loop filter operates to close the focus loop (3 through 6 in the above diagram).

3. Verifying focus close completion

The focus close completion is verified by observing the AS and RFENV signal levels (6 and 7 in the above diagram).

In the test mode, focus search is used to verify the FE, AS and RFENV signal levels and the focus drive voltage.

1.2.2 Tracking close

After a tracking-close command is issued, the following procedures are performed irrespective of DVDs and CDs:

1. Tracking brake

A half cycle of the track-cross (TKC) signal is measured. If the measured cycle falls within the prescribed range, then a brake pulse signal is output. The direction of the brake pulse depends on the relation in phase between the OFTR signal and TKC signal (which is obtained by converting the TE signal into a binary signal). When it is confirmed that the stability in lens operation against the disc has been obtained, the brake pulse output will be terminated, and the operation will proceed to the track-closing mode. If it is not confirmed, the brake pulse output will be terminated 10msec. after the brake pulse signal is output, then the operation will automatically proceed to the track-closing mode.

2. Tracking closing

The tracking drive-hold process is performed with the OFTR signal.

3. Verifying tracking close completion

The success or failure in tracking close depends on the number of tracks that the pickup crosses within the prescribed period. That is, when the number is the prescribed one or less, the system senses that the tracking close is completed. The time limit for the tracking close verification process is 20msec. The retry operation will be carried out with the command from the microcomputer if the verification has not been completed within the time limit.

1.2.3 Track jump

This system performs track jumps by selecting the following three modes depending on the number of tracks to be skipped: Interval jump, multi jump and traverse jump.

1. Interval jump

In this mode, a single-track jump is performed repeatedly. This mode is used for fine seek operation when the pickup has approached the target track or adjacent tracks are targeted.

2. Multi jump

This mode performs the pickup track-count movement by counting both edges of the TKC signal to jump the target number of tracks.

3. Traverse seek

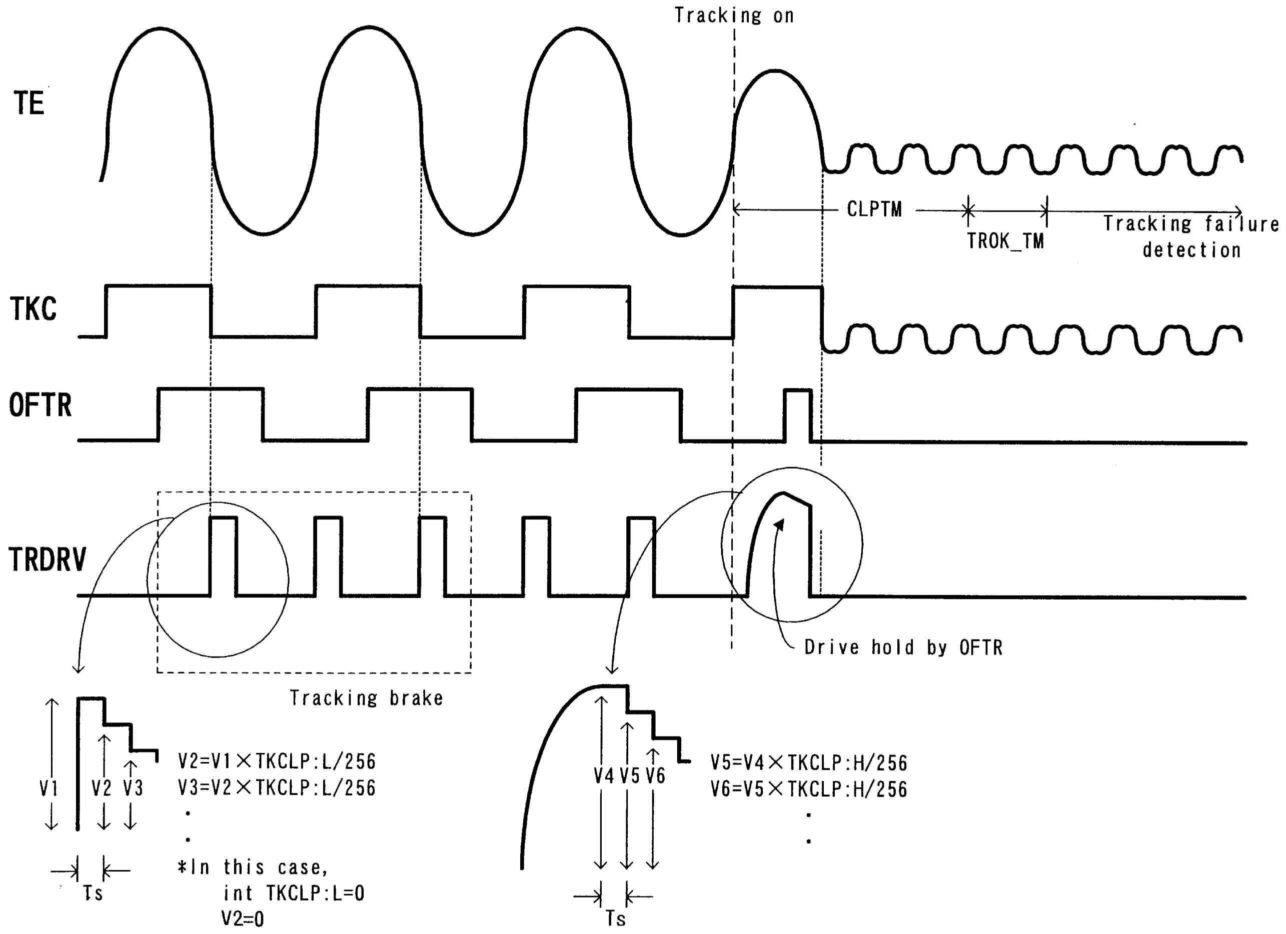
In this mode, the time is measured with the TKC signal to control the pickup speed. During the movement of the pickup, its vibration is minimized.

The track-jump mode settings for DVDs and CDs are shown below:

Target number of tracks	Track jump mode
1~10	Interval jump
11~100	Multi jump
101~500	Combination of multi jump and interval jump
501~	Traverse seek

The waveform in each of the track-jump modes is shown in the following pages.

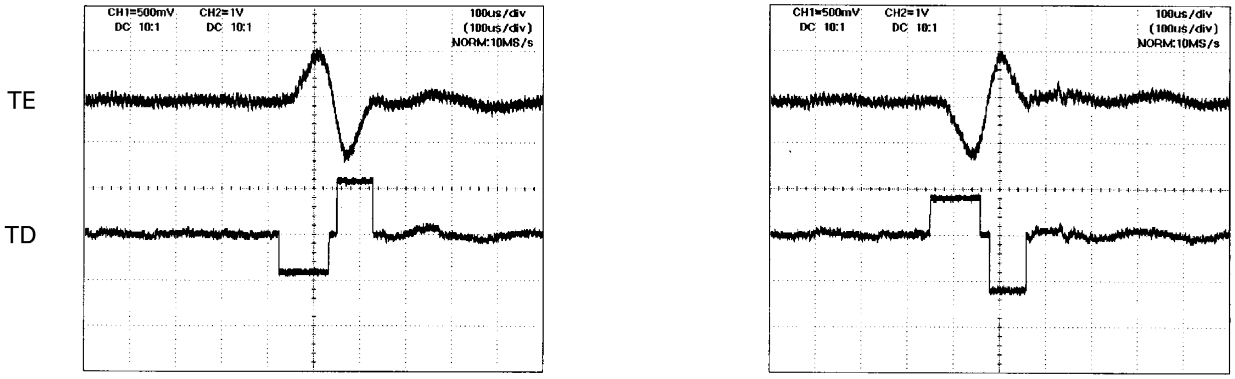
Tracking–on process


Tracking on
TE
TKC
OFTR
TRDRV
CLPTM
TROK_TM
Tracking failure detection
Drive hold by OFTR
Tracking brake
V1
V2
V3
V2=V1×TKCLP:L/256
V3=V2×TKCLP:L/256
*In this case,
int TKCLP:L=0
V2=0
Ts
V4
V5
V6
V5=V4×TKCLP:H/256
V6=V5×TKCLP:H/256
Ts

Interval jump (one track)

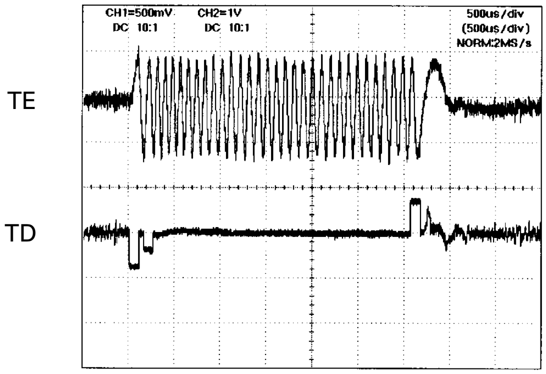
Toward outer tracks

Toward inner tracks

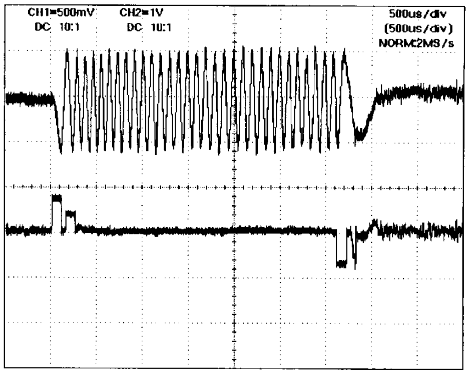


Multi jump (32 tracks)

Toward outer tracks

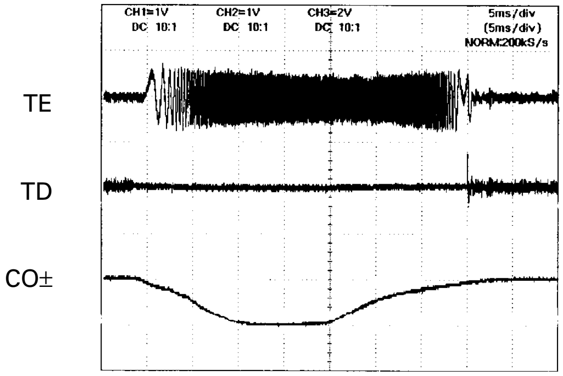


Toward inner tracks

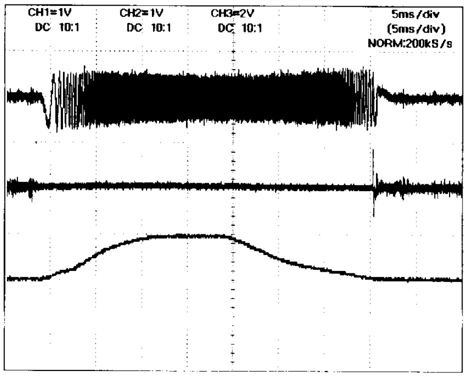


Traverse seek (501 tracks)

Toward outer tracks

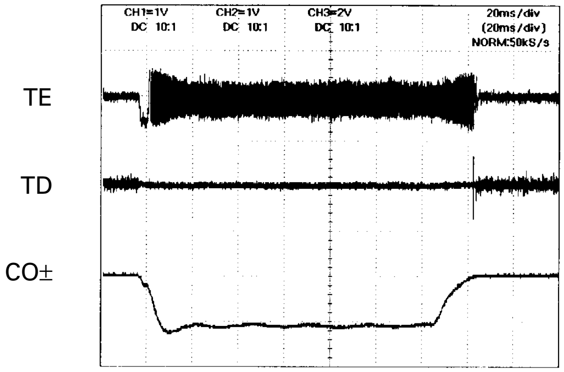


Toward inner tracks

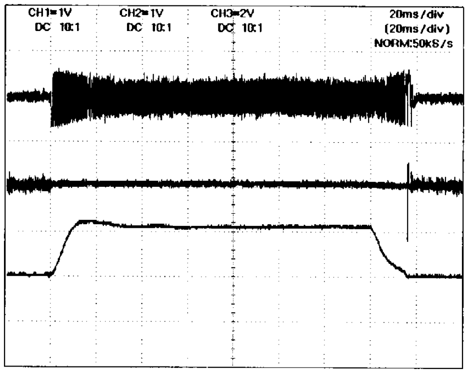


Traverse seek (5,000 tracks)

Toward outer tracks

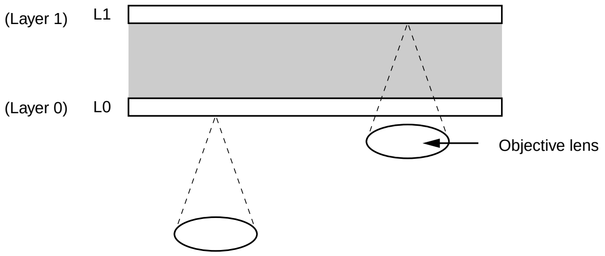


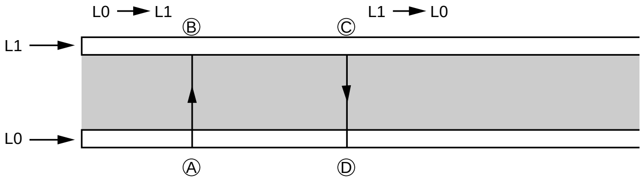
Toward inner tracks



1.2.4 Focus jump

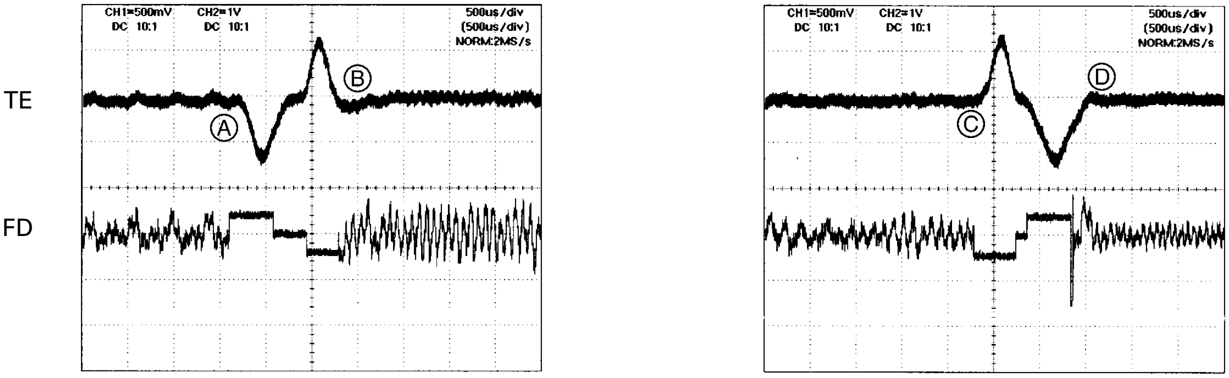
Focus jump is used for single-sided, double-layered or double-sided, double-layered discs. The layer closest to the objective lens is called layer 0 (L0), and the other layer is layer 1 (L1).





The waveforms in the focus jump mode are shown below:

Focus jump waveform



The focus-jump operation flow is described below:
1. The tracking loop is unlocked on the layer that is being played.
2. A jump command is issued to jump to the targeted layer.
3. The tracking loop closes on the targeted layer and reproduction starts.

The detailed processes after a jump command is issued are as follows:
1. The pickup lens is accelerated towards the target layer until the FE signal detects the focus jump acceleration completion level. If the acceleration timeout occurs before the acceleration completion level is detected, the acceleration is forcibly terminated.
2. No drive voltage is applied until the FE signal detects the deceleration starting level, and the lens is kept moving by the inertia.
3. With the deceleration starting level detected, the lens starts decelerating, and continues it until the deceleration completion level is detected. If the deceleration timeout occurs before the deceleration completion level is detected, the deceleration is forcibly terminated.

1.3 Automatic adjustment functions

This system automatically performs all circuit adjustments by combined operations of the ICs AN8703FH (FEP) and MNZS26EDCUB (SODC). Each automatic adjustment function is explained below:

1.3.1 FE, TE and AS offset cancel

The analog signals FE, TE and AS, generated by the FEP, are A/D-converted by the A/D converter inside the SODC. When the power is turned on, the offset cancel works to cancel the input offset of the A/D converter.

1.3.2 Data slice balance (DBAL) adjustment

The DBAL adjustment is made to adjust the data-slice level that is used when the RF signal from the FEP is converted to a binary signal in the SODC. When the power is turned on, the test signal of the constant frequency is output from the SODC and the jitter component of the signal is adjusted to the minimum.

•In the same manner as the above, the PLL balance (PBAL) adjustment is made to optimize the current level balance between the P-ch and N-ch sides of the chargeable pump.

1.3.3 FE regulating adjustment

The FE signal level measured when the focus loop is closed is A/D-converted in the SODC. Then it is adjusted so that it becomes 190LSB at the input stage of the digital equalizer.

1.3.4 Spindle gain learning

The time is measured that is required for the spindle motor to start rotating in the stop mode and reach the prescribed rotation. The measured time is used to adjust the SPDL gain, thereby absorbing the variation in the motor torque.

1.3.5 Tracking balance (TBAL) adjustment

In the focus close and tracking open mode, the lens is vibrated in the tracking direction. The tracking balance is adjusted so that the DC offset becomes zero (the balance point) by using the Newton-Raphson's method.

1.3.6 Tracking error amplitude learning

In the focus close and tracking open mode, the lens is vibrated in the tracking direction. After A/D-converted in the ADSC, the amplitude level of the TE signal is adjusted so that it becomes 190LSB at the input stage of the digital equalizer.

1.3.7 Focus balance (FBAL) adjustment

In the tracking close mode, the focusing position is adjusted by minimizing the RFENV.

1.3.8 Focus gain and tracking gain adjustments

In the tracking close mode, some disturbance signal is applied to the servo loops. The focus and tracking gains are adjusted to the target gain cross points.

1.3.9 AS regulating adjustment

In the tracking close mode, the AS signal level is sampled the prescribed times. After A/D-converted in the ADSC, this signal is adjusted so that it becomes 64LSB at the input stage of the digital equalizer.

For each automatic adjustment, the adjustment results can be displayed in the test mode for verification.

Condition	Coefficient name	DVD	CD
Power-on	FE offset	FC44 - 03BC	FABB - 0545
	TE offset	EF90 - 1070	F435 - 0BCB
	AS offset	FBBB - 0745	F8BB - 0745
Focus close	Spindle gain	01CF - 048D	01CF - 048D
	FE maximum	1767 - 462B	15C2 - 485A
	FE minimum	B9D5 - E899	B7A6 - EA3E
	AS maximum	1006 - 2AD5	0E96 - 26FD
	FE regulation	014E - 044E	0142 - 04AB
Focus close (after TBAL)	TE maximum	199E - 4776	147C - 43D6
	TE minimum	B88A - E662	BC2A - EB84
	TE regulation	00F7 - 03AE	00EF - 0428
Tracking close	Focus gain	0100 - 0400	0100 - 0400
	Tracking gain	0100 - 0400	0100 - 0400
	AS regulation	0170 - 04BF	0192 - 05D0

Notes:
The coefficient values are indicated in the hexadecimal system.
The specifications shown above are for the production line.
The used discs are DVD-REF-A1 and TCD-782 for DVDs and CDs respectively.

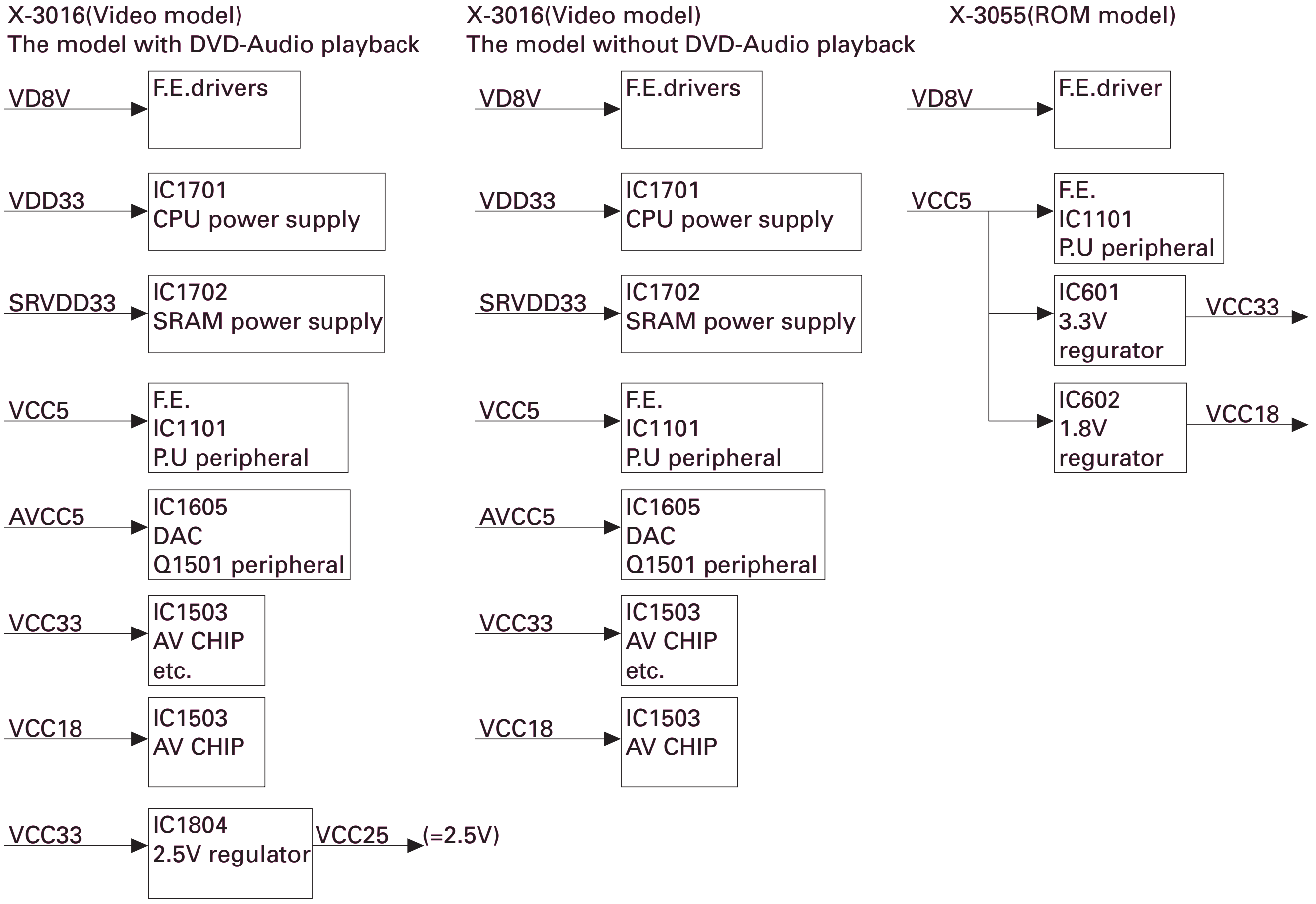
1.4 Back-end section

As described before, in the front-end processor and optical disc controller, the data is read out from a disc, and processed for demodulation and error correction.
Here in the back-end section, thorough the MPEG decoding, compressed audio decoding and other processing, the data is output as video and audio signals.
The back-end section, including the microcomputer, its peripheral circuits, and power supply, is explained below:

1.4.1 Back-end power supply

The back-end power supply for each model is shown below.

The video-type model with DVD-Audio reproduction function has the 2.5V internal regulator, but the video-type model without DVD-Audio reproduction function does not. The ROM-type has a different power supply circuit from those for the video-type models.


X-3016(Video model)
The model with DVD-Audio playback
VD8V
F.E.drivers
VDD33
IC1701
CPU power supply
SRVDD33
IC1702
SRAM power supply
VCC5
F.E.
IC1101
P.U peripheral
AVCC5
IC1605
DAC
Q1501 peripheral
VCC33
IC1503
AV CHIP
etc.
VCC18
IC1503
AV CHIP
VCC33
IC1804
2.5V regulator
VCC25
(=2.5V)
X-3016(Video model)
The model without DVD-Audio playback
VD8V
F.E.drivers
VDD33
IC1701
CPU power supply
SRVDD33
IC1702
SRAM power supply
VCC5
F.E.
IC1101
P.U peripheral
AVCC5
IC1605
DAC
Q1501 peripheral
VCC33
IC1503
AV CHIP
etc.
VCC18
IC1503
AV CHIP
X-3055(ROM model)
VD8V
F.E.driver
VCC5
F.E.
IC1101
P.U peripheral
IC601
3.3V
regurator
VCC33
IC602
1.8V
regurator
VCC18

Power supply configuration

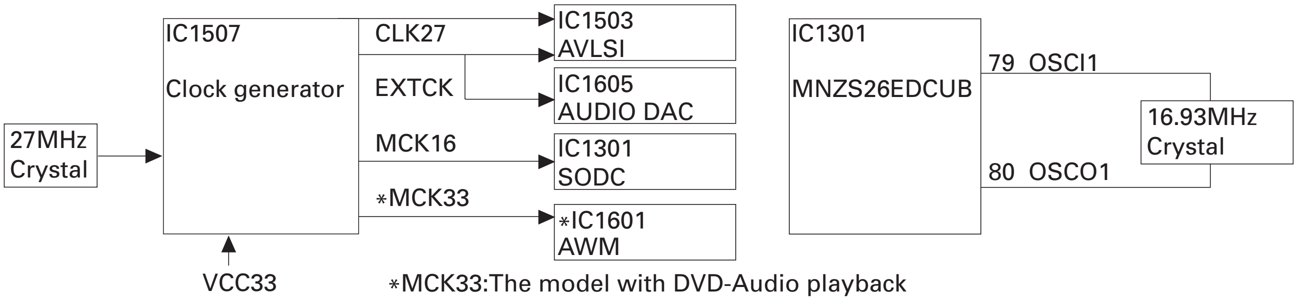
1.4.2 Back-end clock section

For the Video-type models:

An oscillating crystal of 27MHz is used to generate the 27MHz buffer-out (CLK27), audio section clock (EXTCK), and front-end section clock (MCK16) signals by the IC1507.

For the ROM-type model:

An oscillating crystal of 16.93MHz is used to generate the front-end section clock (MCK16) signal by the IC1301.


27MHz Crystal
IC1507
Clock generator
VCC33
CLK27
EXTCK
MCK16
*MCK33
IC1503 AVLSI
IC1605 AUDIO DAC
IC1301 SODC
*IC1601 AWM
IC1301
MNZS26EDCUB
79 OSCI1
80 OSCO1
16.93MHz Crystal

*MCK33:The model with DVD-Audio playback

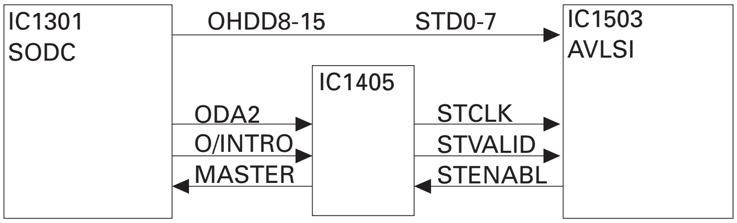
Clock configuration

1.4.3 Back-end stream I/F section (only for the video-type models)

This section functions as an interface to transfer the data read out in the front-end section, between the SODC and the back-end section.

For DVDs, this section transfers MPEG data, which is generally called MPEG stream. Therefore, the I/F section is called stream I/F.

Note that the signals are given different names between the IC1301 SODC and IC1503 AVLSI.


IC1301
SODC
OHDD8-15
STD0-7
IC1503
AVLSI
IC1405
ODA2
O/INTRO
MASTER
STCLK
STVALID
STENABL

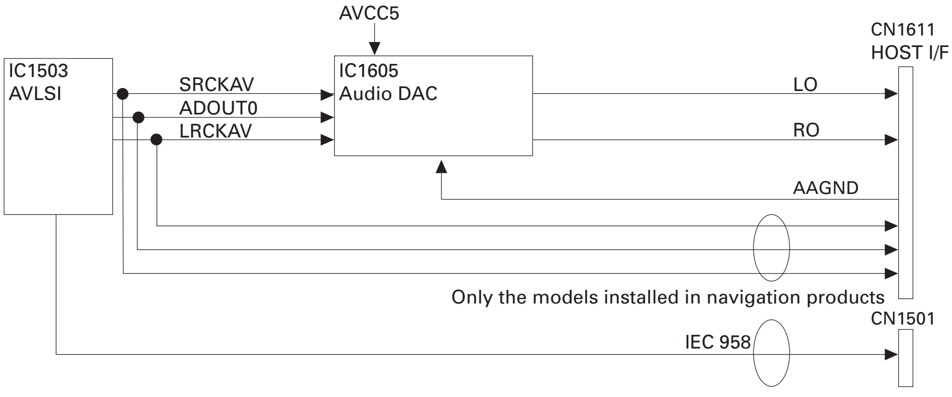
Streaming I/F

1.4.4 Back-end audio circuit section (only for the video-type models)

The three serial audio signals, output from the AVLSI, are applied to the IC1605 (Audio DAC), where they are converted into analog audio signals. These analog signals are output from the HOST I/F.

Only for the models installed in navigation products, after output from the AVLSI, the same serial signals are directly put out from the HOST I/F.

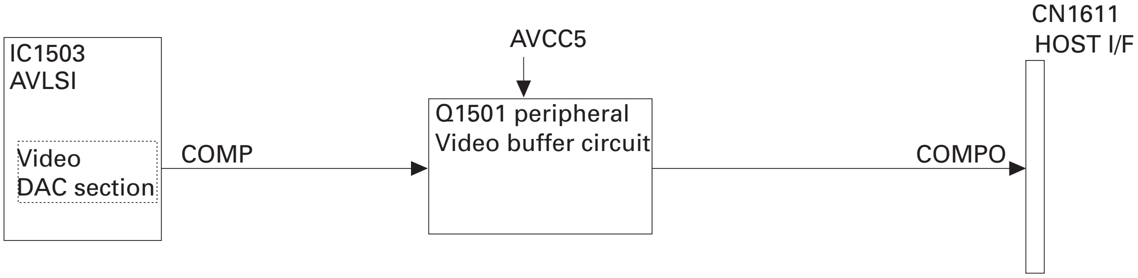
The IEC958 (audio/digital out) is available only for the model without DVD-Audio playback function.


AVCC5
IC1503
AVLSI
SRCKAV
ADOUT0
LRCKAV
IC1605
Audio DAC
CN1611
HOST I/F
LO
RO
AAGND
Only the models installed in navigation products
CN1501
IEC 958
The model without DVD-Audio playback

Audio circuit

1.4.5 Back-end video circuit section (only for the video-type models)

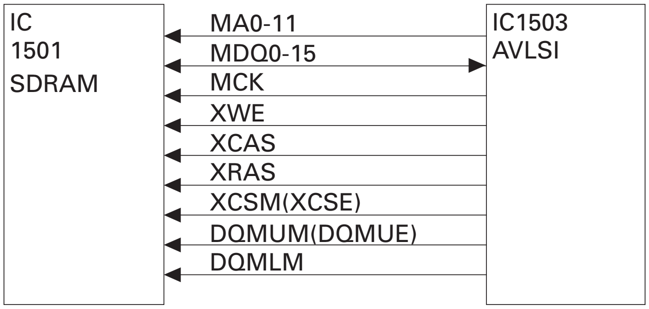
The composite video signal from the video DAC circuit inside the AVLSI is output from the HOST I/F via the video buffer circuit.


IC1503
AVLSI
Video
DAC section
COMP
AVCC5
Q1501 peripheral
Video buffer circuit
COMPO
CN1611
HOST I/F

Video circuit

1.4.6 Back-end SDRAM I/F section (only for the video-type models)

For the SDRAM, which functions as the communication I/F between the AVLSI and the memory, a 64Mbit IC has employed to secure the MPEG stream dada buffer.

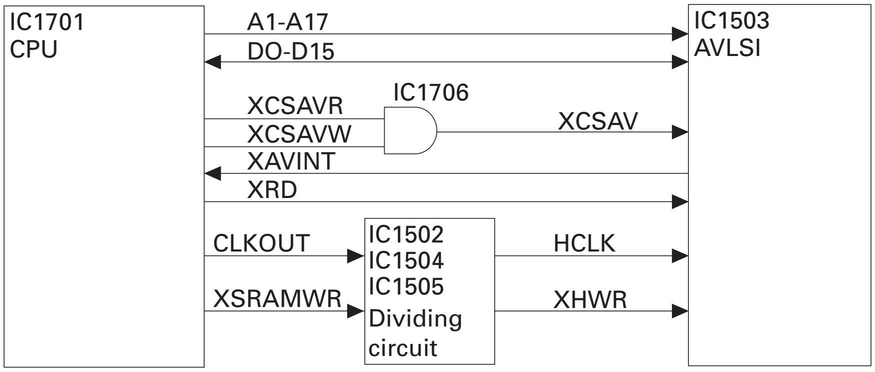

IC
1501
SDRAM
MA0-11
MDQ0-15
MCK
XWE
XCAS
XRAS
XCSM(XCSE)
DQMUM(DQMUE)
DQMLM
IC1503
AVLSI

SDRAM interface

1.4.7 Back-end microcomputer I/F section (only for the video-type models)

This section works as a communication interface between the AVLSI and the CPU.

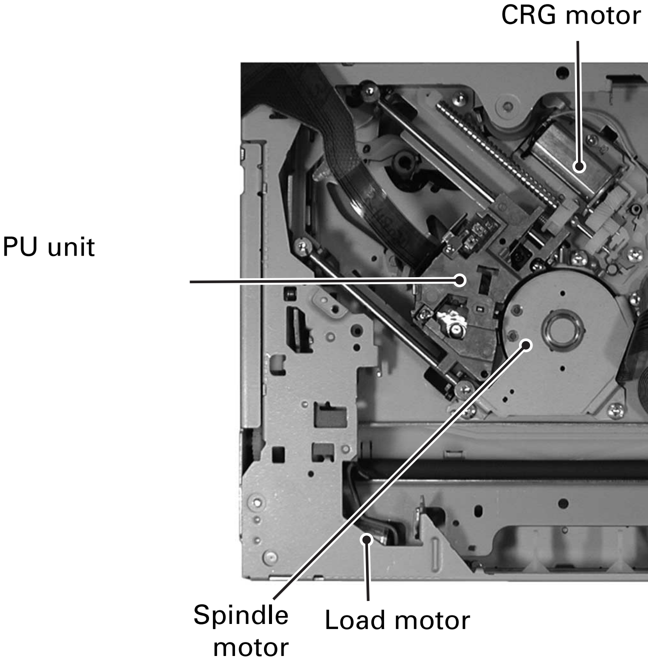
In order to match the operating frequency for the CPU with that for the AVLSI, a frequency dividing circuit is inserted as shown below.

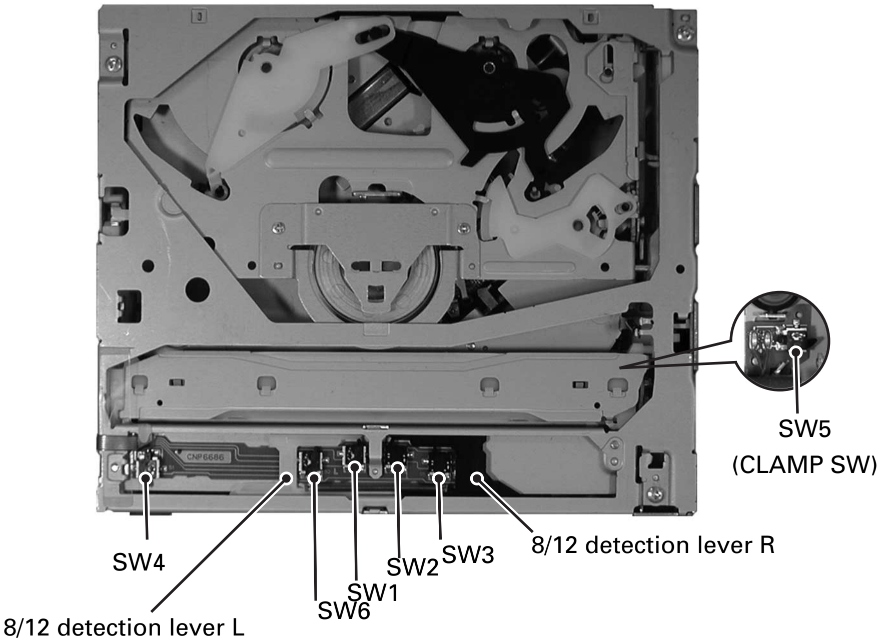

IC1701
CPU
A1-A17
DO-D15
XCSAVR
XCSAVW
IC1706
XCSAV
XAVINT
XRD
CLKOUT
XSRAMWR
IC1502
IC1504
IC1505
Dividing
circuit
HCLK
XHWR
IC1503
AVLSI

Microcomputer interface

2. Mechanism descriptions

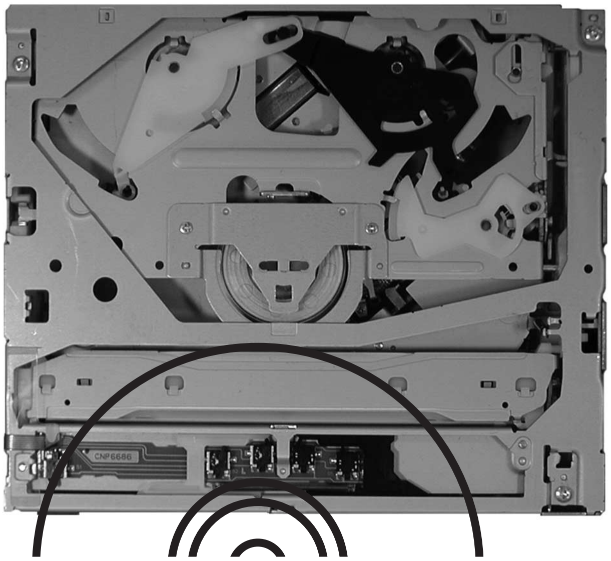
Configuration


CRG motor
PU unit
Spindle motor
Load motor


CNP6686
SW5 (CLAMP SW)
8/12 detection lever R
SW4
SW2
SW3
SW1
SW6
8/12 detection lever L

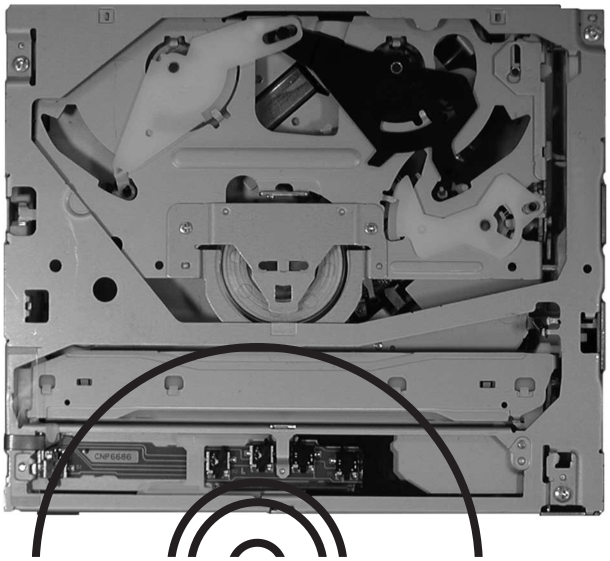
2.1 Disc loading operation

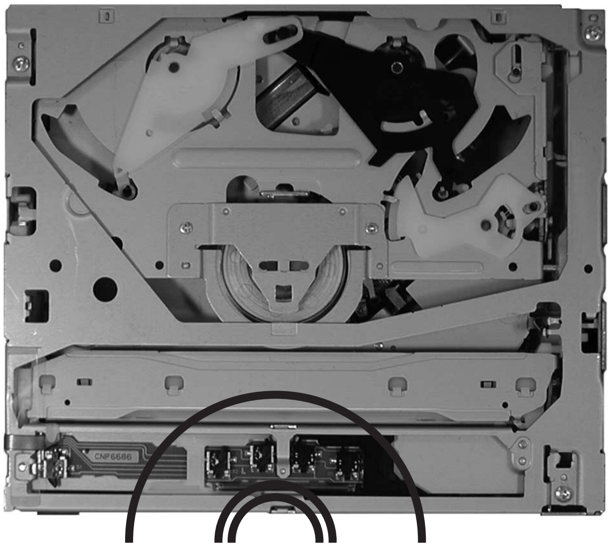
1. When a disc is inserted, the 8/12-detection levers R and L slide. Either of the switches SW1 and SW2 is shifted from ON to OFF, which triggers the operation of the loading motor.
2. For a 12cm disc, the switch SW3 is turned OFF and SW4 is ON during disc transportation. The microcomputer senses that a 12cm disc is loaded.



12 cm disk

3. For an 8cm disc, neither the switch SW3 nor SW4 will be shifted to the above states (SW3: OFF, SW4:ON) during disc transportation. The operation mode proceeds to the clamp operation. The microcomputer senses that an 8cm disc is loaded.

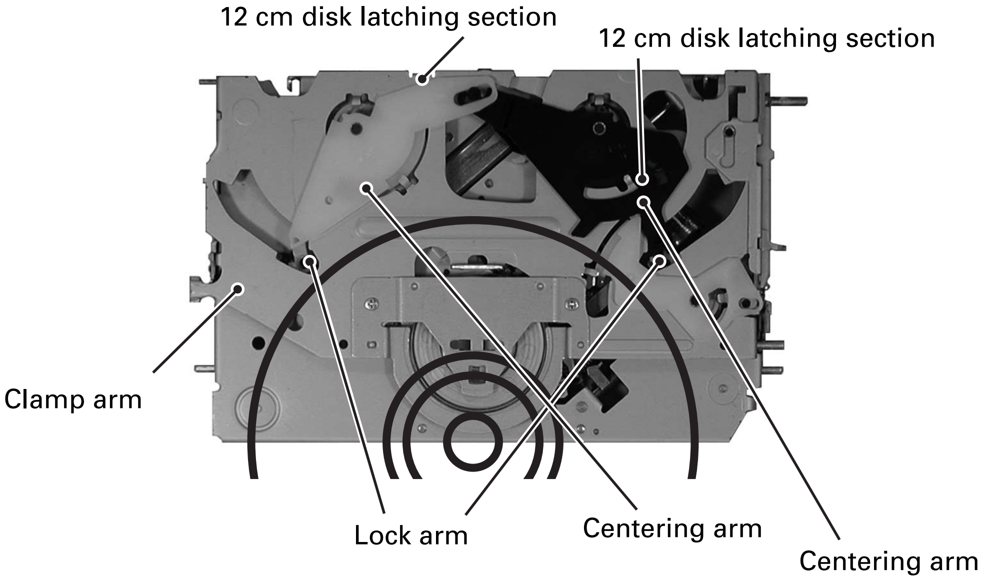




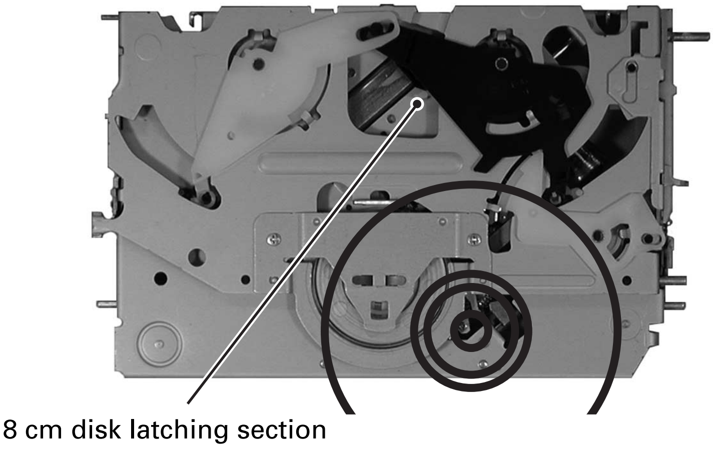
8 cm disk

2.2 Disc centering mechanism

1. With a 12cm disc loaded, the disc pushes both of the lock arms R and L to open the centering arms R and L. Then, the clamp arm or the stopper of the centering arm R stops the disc for centering. The operation mode proceeds to the clamp operation.


12 cm disk latching section
12 cm disk latching section
Clamp arm
Lock arm
Centering arm
Centering arm

2. With an 8cm disc loaded, the disc pushes either of the lock arms R and L. The lock arms R and L are connected each other via the centering arms R and L. The lock arms R and L will be kept locked unless the disc pushes them at the same time. Therefore, the lock arm blocks the disc for centering. During disc centering, the disc pushes out the disc detection arm. When the detection arm completes moving, the disc stops. The operation mode proceeds to the clamp operation.

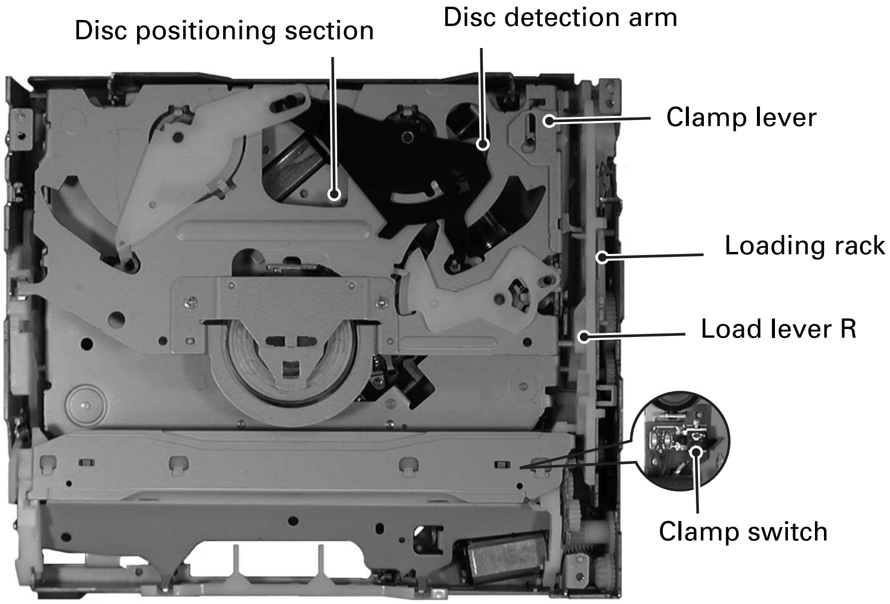

8 cm disk latching section

A

2.3 Clamp operation

1. When an 8 or 12 cm disc is centered over the spindle, the disc detection arm moves the clamp lever. The loading rack driven by the clamp lever is engaged with the lever driving gear, which triggers the disc clamp operation.

B


Disc positioning section
Disc detection arm
Clamp lever
Loading rack
Load lever R
Clamp switch

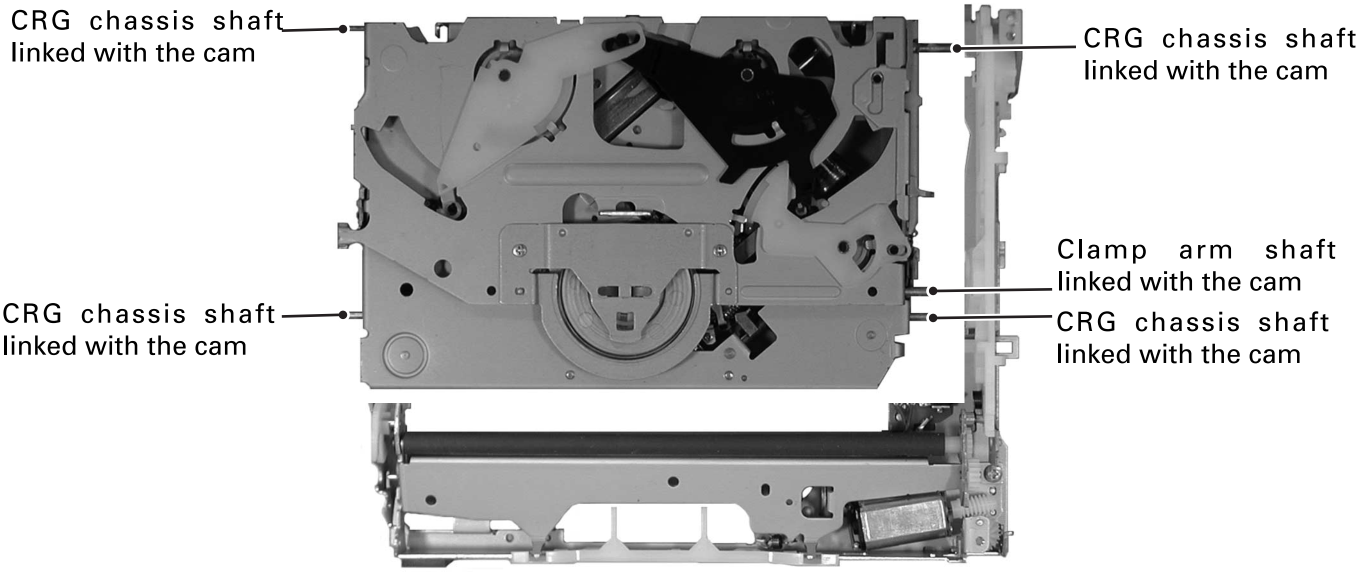
C

D

E

F

2. When pressed by the loading rack, the load lever R moves toward the front side, and the roller shaft, which is connected to the cam of the load lever R, moves downward. The roller shaft is connected to the cam of the cam ring also. Therefore, the drive of the roller shaft is transferred to the load lever L via the cam ring. The load lever L moves toward the front side. The load lever cams are released from the three shafts for the CRG chassis unit and the clamp arm shaft. When the load lever R turns on the clamp switch, the clamp operation ends.


CRG chassis shaft linked with the cam
CRG chassis shaft linked with the cam
Clamp arm shaft linked with the cam
CRG chassis shaft linked with the cam
CRG chassis shaft linked with the cam

2.4 Eject operation

1. When the loading motor turns in reverse, the disc eject operation begins.
2. With a 12cm disc loaded, when the SW4 is shifted from OFF to ON, and then OFF again, the eject operation ends.
3. With an 8cm disc loaded, when the SW3 or SW 6 is shifted from ON to OFF, and then both switches are turned ON, the eject operation ends.

3. Disassembly

● Precautions on handling the mechanism module

1. Hold the upper and main frames.
2. Do not hold the front portion of the upper frame. It is a delicate part.
3. Do not touch the switches on the top panel.
4. Be careful not to catch the flexible cables.

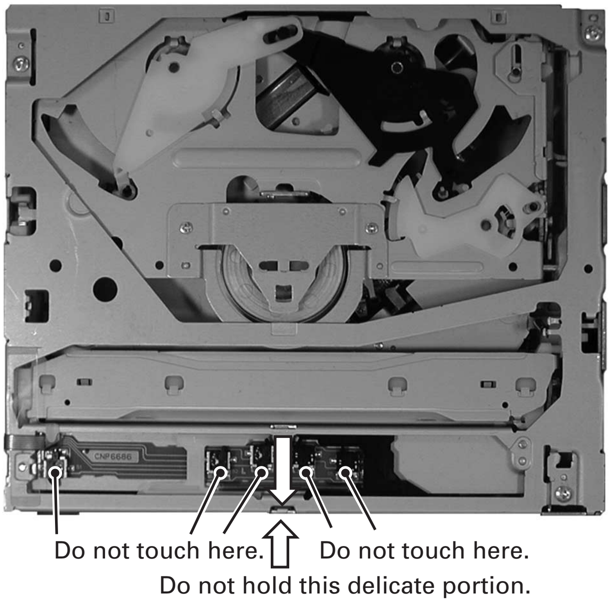

CNP6686
Do not touch here.
Do not touch here.
Do not hold this delicate portion.

Fig. 1

● Removing the module pc board (fig.2 and 3)

1. Set the mechanism to the lock position (disc load standby position).
2. Place the mechanism module upside down.
3. Short the two lands on the pickup flexible cable as shown below.
4. Be sure to disconnect the pickup flexible cable and the CRG flexible cable from the connectors to protect them from damages.
5. Remove solder from the load motor leads and clamp SW leads.
6. Loosen the two fixing screws. Lift the position A of the module pc board lightly and move it in the direction B to remove it. Be careful not to damage the flexible cable C.
7. Disconnect the 8/12 detection flexible-cable from the connector.

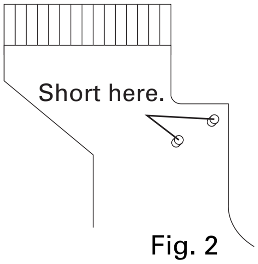


Fig. 2

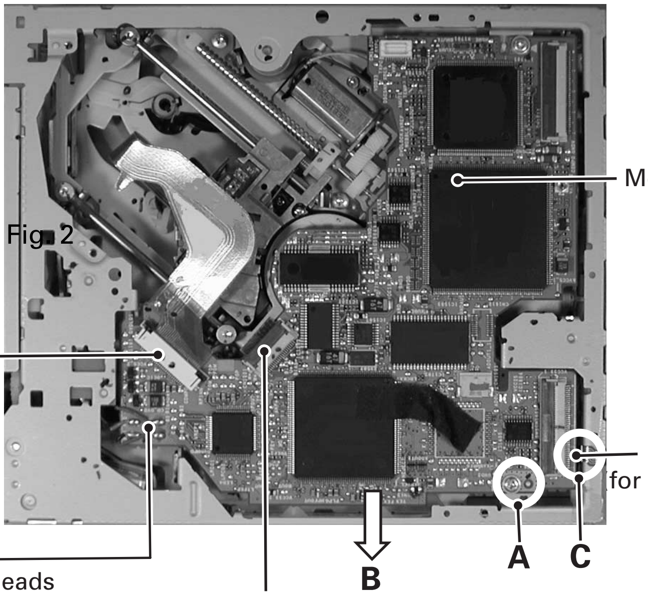


Fig. 2
Module pc board
Connector
(for pickup flexible cable)
Connector
(for 8/12 detection flexible cable)
Load motor
leads and clamp SW leads
Connector
(for CRG flexible cable)
A
C
B

Fig. 3

● Removing the pickup unit (fig. 4))

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
2. While holding the pickup case, remove the skew screw (main).
3. Lifting the end of the pickup rack, slide the main shaft, and remove the pickup unit.

Notes:

Replacing the pickup unit requires the skew adjustment.

Remove glue from both ends of the main and sub shafts, and skew stud.

Do not reuse the old skew screw. Be sure to use a brand-new skew screw supplied with a new pickup unit.

Fix the skew screw with glue (GYL1001) after adjustment.

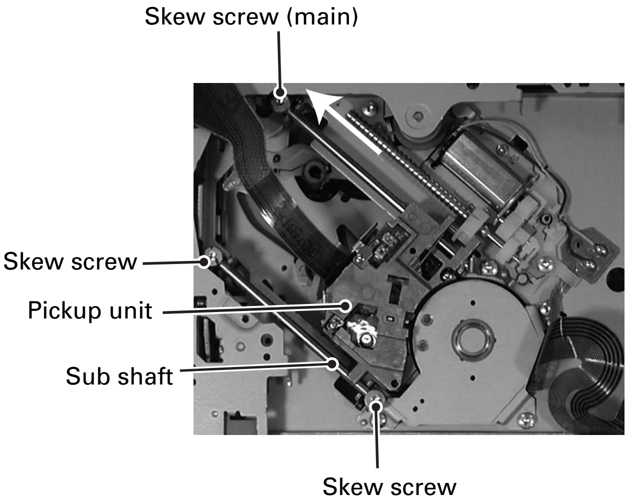


Fig. 4

● Removing the CRG motor ASSY (fig.5)

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
2. Release the CRG motor leads from the resin guide and remove the CRG flexible cable from the land.
3. Remove the fixing screw, and remove the feed screw holder together with the 2-stage gear.
4. Remove the fixing two screws and CRG motor ASSY.

Caution: When replacing the CRG motor ASSY, be careful not to damage the gears, especially the 2-stage gear that is very delicate. When lifting the pickup rack to install the motor, be careful not to damage the gear teeth.

● Removing the spindle motor (fig.5)

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board."
2. Release the CRG motor leads from the resin guide and remove the CRG flexible cable from the land.
3. Remove the three fixing screws for the SPDL motor. Be careful not to deform the CRG chassis when replacing the SPDL motor.

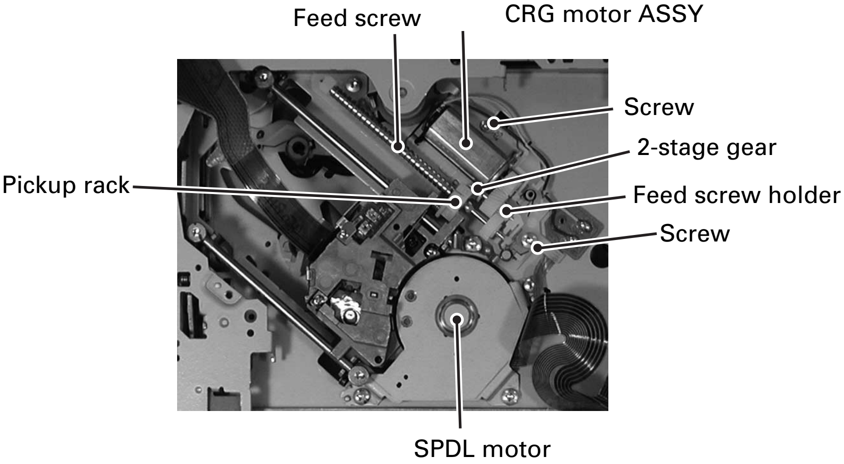

Feed screw
CRG motor ASSY
Screw
2-stage gear
Pickup rack
Feed screw holder
Screw
SPDL motor

Fig. 5

● Removing the upper frame ASSY (fig. 6)

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
2. Remove the spring.
3. Remove the four screws and remove the upper frame ASSY.

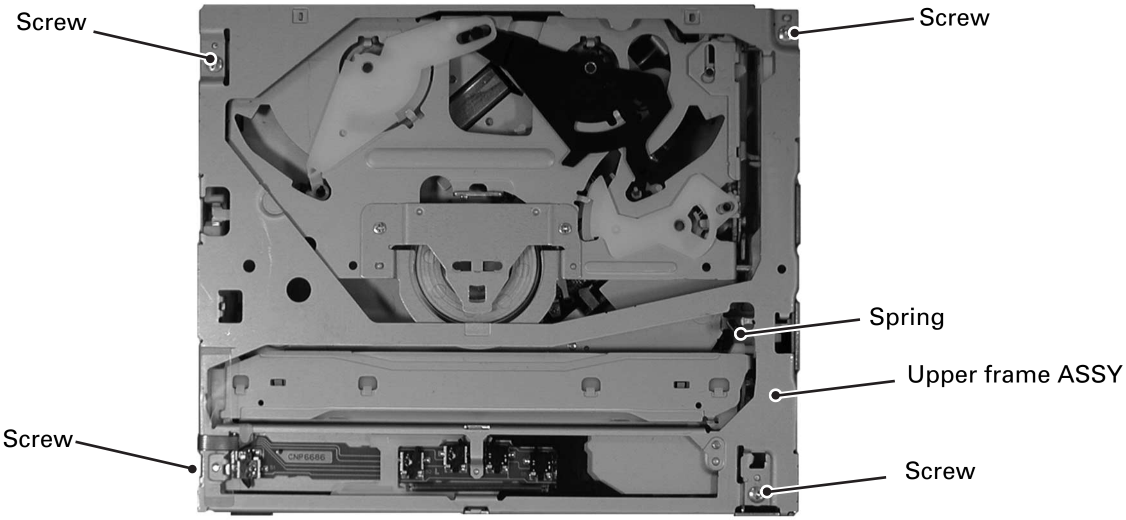

Screw
Screw
Spring
Upper frame ASSY
Screw
Screw

Fig. 6

● Removing the load gear ASSY (fig. 7)

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board."
2. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY."
3. Remove the two screws and remove the load gear ASSY.
4. Remove the loading rack and the spring.

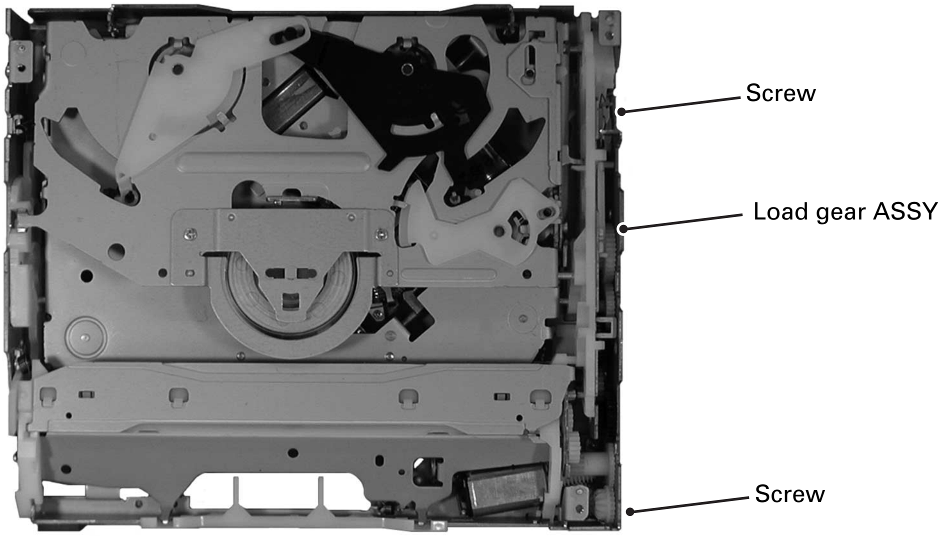


Fig. 7

● Setting the quasi-clamp mode by driving the loading motor (fig. 8)

1. While driving the loading motor in the clamping direction, pull the clamp lever toward the front side.
2. Even after the clamp lever pushes the loading rack (clamp mode), keep the clamp lever pulled lightly. Prevent the clamp lever bar ring from coming into the clamp spring. If not, ejection will not be impossible.
3. After the clamp operation ends, stop the operation before the objection of the loading rack touches the load lever R. (fig. 10)

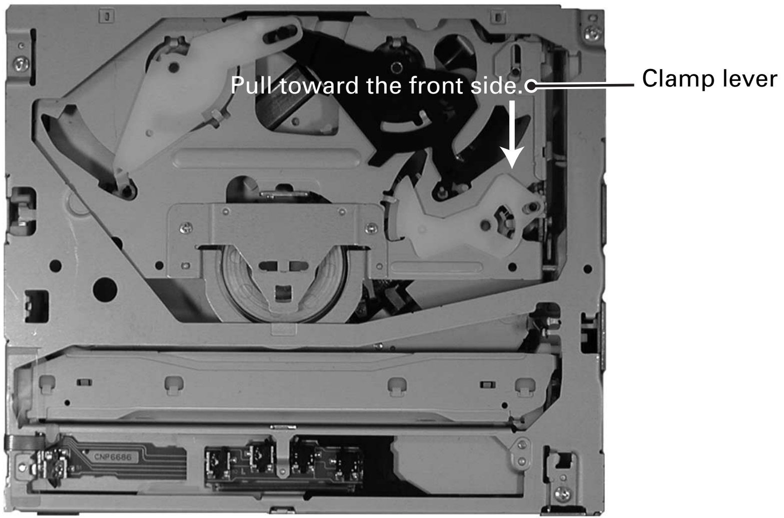
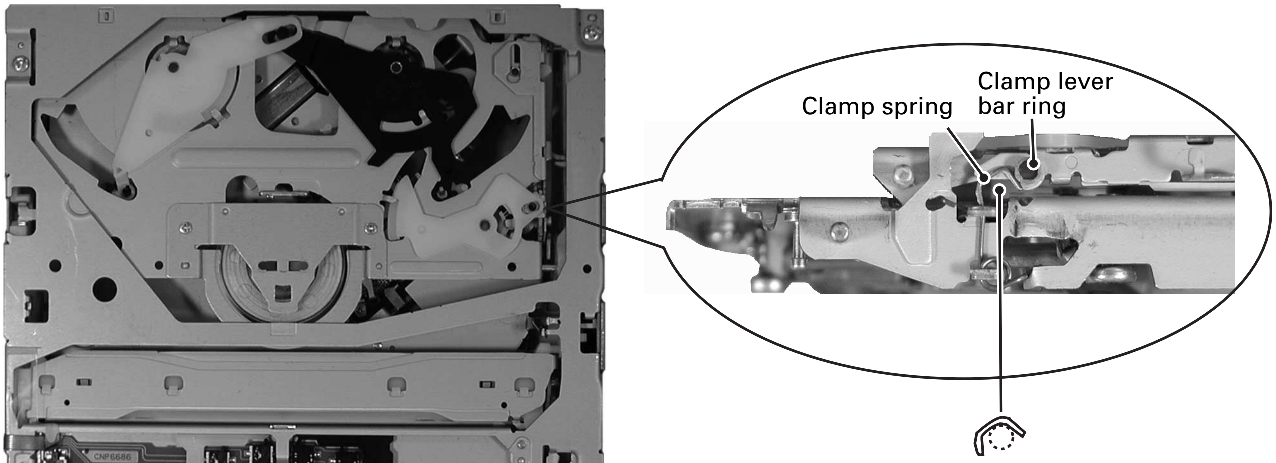


Fig. 8


Clamp spring
Clamp lever
bar ring

Prevent the clamp lever bar ring from coming into the clamp spring (the above condition is NG)

Fig. 9

Stop before this clearance becomes zero.

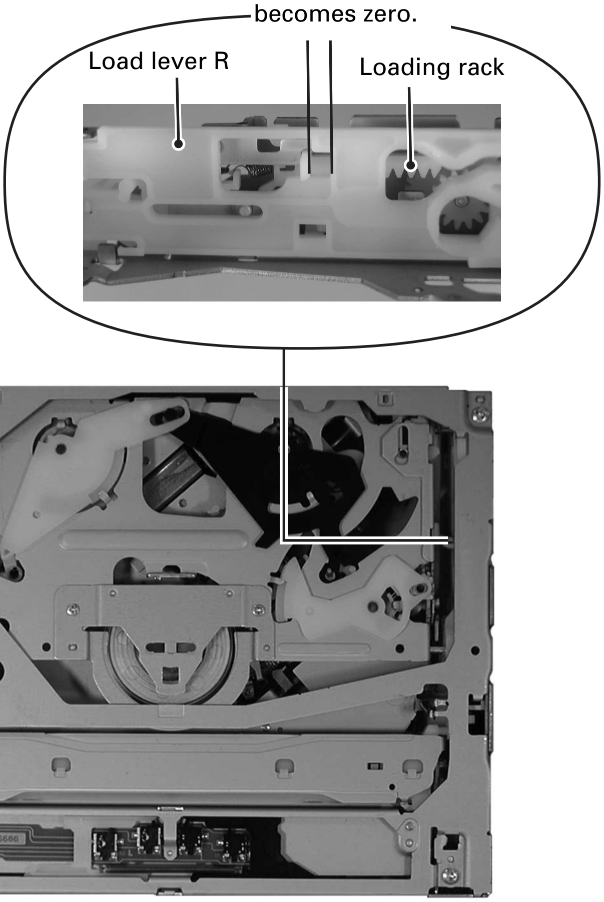

Load lever R
Loading rack

Fig. 10

● Setting the quasi-clamp mode manually (fig. 11)

1. Remove the module pc board in accordance with the procedure of "Removing the module printed circuit board."
2. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY."
3. Remove the load gear ASSY in accordance with the procedure of "Removing the load gear ASSY."
4. While pulling the clamp lever toward the front side, pull the fixed portion of the load lever R toward the front side until the mode enters the clamp position.

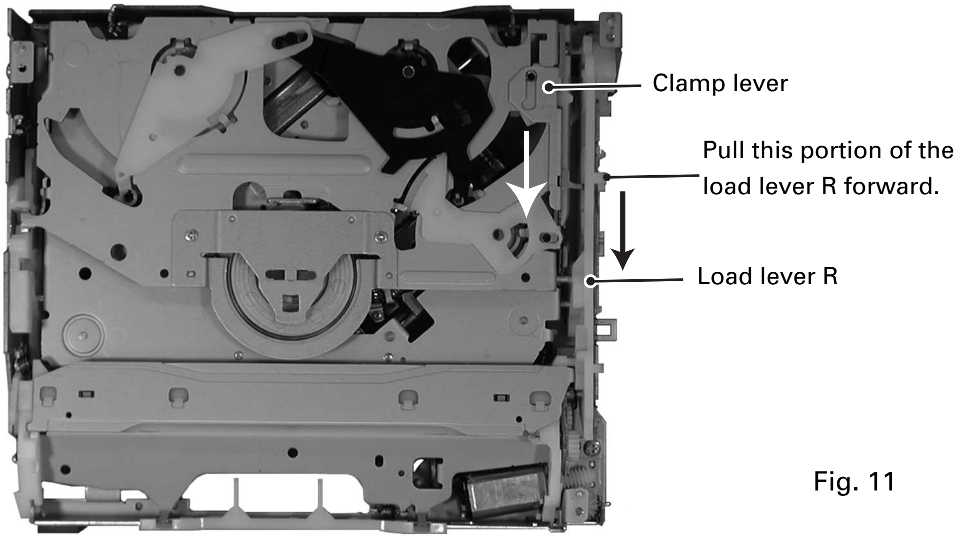


Fig. 11

● Removing the load motor ASSY (fig. 12)

1. Remove the module pc board in accordance with the procedure of "Removing the module printed circuit board."
2. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY."
3. Remove the load gear ASSY in accordance with the procedure of "Removing the load gear ASSY."
4. Enter the quasi-clamp mode in accordance with the procedure of "Setting the quasi-clamp mode manually."
5. Remove the screw. Slide the load motor ASSY to pull it out.

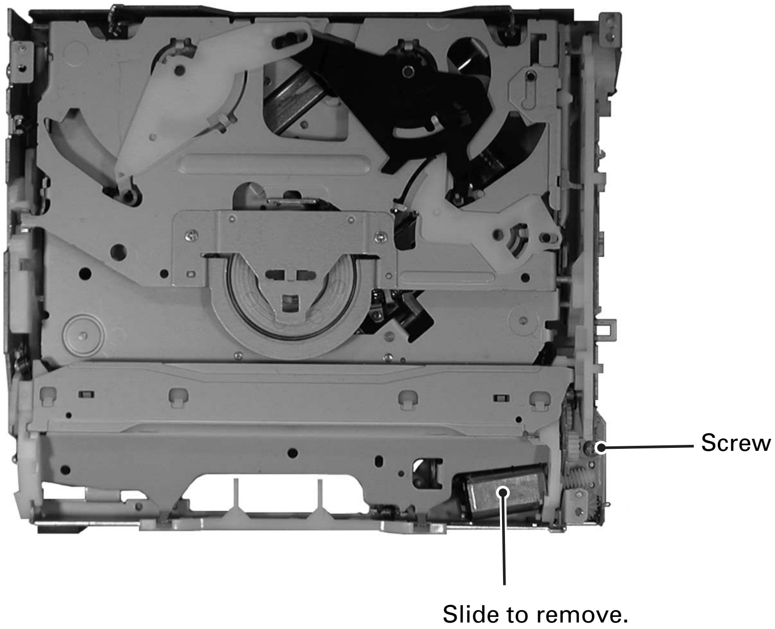


Fig. 12

● Removing the CRG ASSY (fig. 13)

1. Enter the quasi-clamp mode in accordance with the procedure of “Setting the quasi-clamp mode by driving the loading motor.”
2. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
3. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY.”
4. Remove the four springs.
5. Lift the CRG ASSY until the shafts come from the dampers, and then remove it.

● Removing the disc guide ASSY (fig. 13)

1. Enter the quasi-clamp mode in accordance with the procedure of “Setting the quasi-clamp mode by driving the loading motor.”
2. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
3. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY.”
4. Remove the two disc guide springs. While lifting the disc guide and keeping the lifting angle around 45 degrees, slide the guide in the left side to remove it.

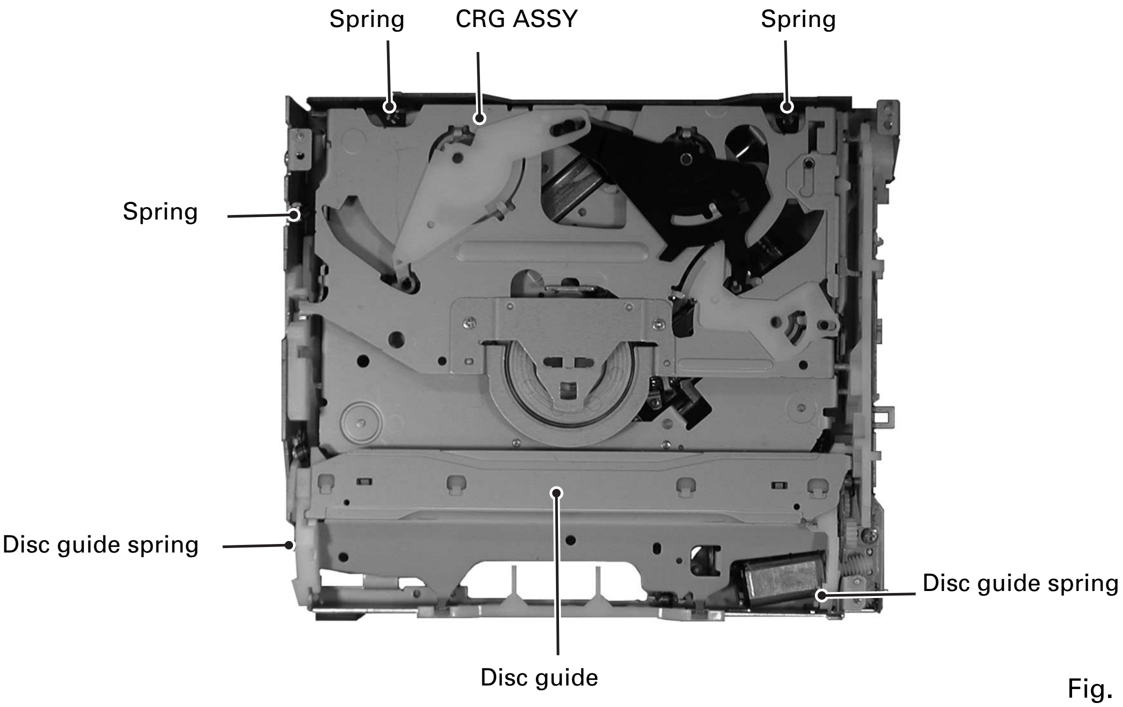


Fig. 13

● Removing the roller ASSY (fig. 14)

1. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
2. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY.”
3. Remove the tension spring.
4. Remove the load gear ASSY in accordance with the procedure of "Removing the load gear ASSY."
5. Enter the quasi-clamp mode in accordance with the procedure of “Setting the quasi-clamp mode manually.”
6. Remove the disc guide ASSY in accordance with the procedure of “Removing the disc guide ASSY.”
7. Remove the CRG ASSY in accordance with the steps 4 and 5 in the procedure of “Removing the CRG ASSY.”
8. By pushing the fixed portion of the load lever R, move the load lever R to the rear side completely.
9. Remove the load levers R and L. Unhook the end of the roller arm spring R from the load lever R.
10. While lifting the roller ASSY to the highest position, slide it to the right side. Lightly bend the whole slot guide by pushing the ends with your fingers and remove the roller ASSY.

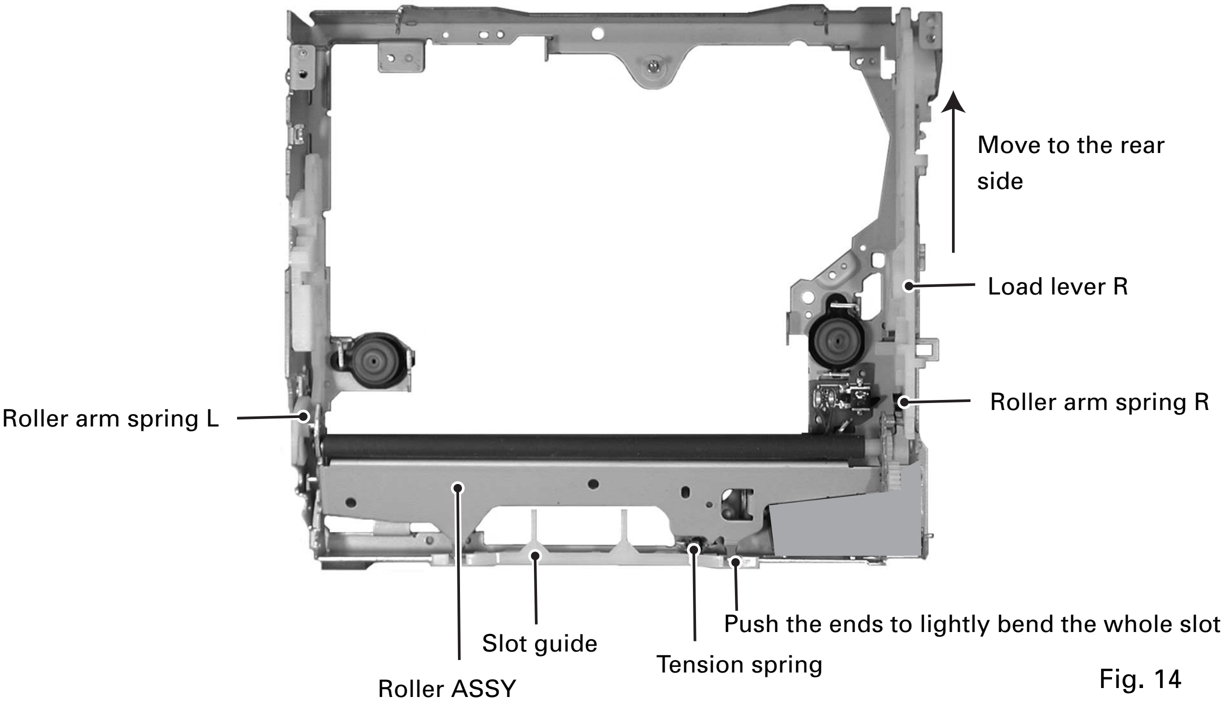

Move to the rear side
Load lever R
Roller arm spring R
Roller arm spring L
Push the ends to lightly bend the whole slot
Slot guide
Tension spring
Roller ASSY

Fig. 14

● Removing the dampers (fig. 15)

1. Enter the quasi-clamp mode in accordance with the procedure of “Setting the quasi-clamp mode by driving the loading motor.”
2. Remove the module pc board in accordance with the procedure of "Removing the module pc board.”
3. Remove the upper frame ASSY in accordance with the procedure of "Removing the upper frame ASSY.”
4. Remove the three springs.
5. Remove the CRG SSSY in accordance with the steps 4 and 5 in the procedure of "Removing the CRG assembly.”
6. Release each of the three dampers from the clinches as follows:
   - 6.1 By using a pair of pliers, hold the portion A and turn them in the direction B. While making a gap in the portion C, release the damper from the clinches.
   - 6.2 Insert a flat-type screwdriver into the portion D. Slightly raise the plate and release the damper from the clinches.
7. Remove the CRG motor ASSY in accordance with the steps 2 through 4 in the procedure of "Removing the CRG motor ASSY.”
8. Remove the dampers.

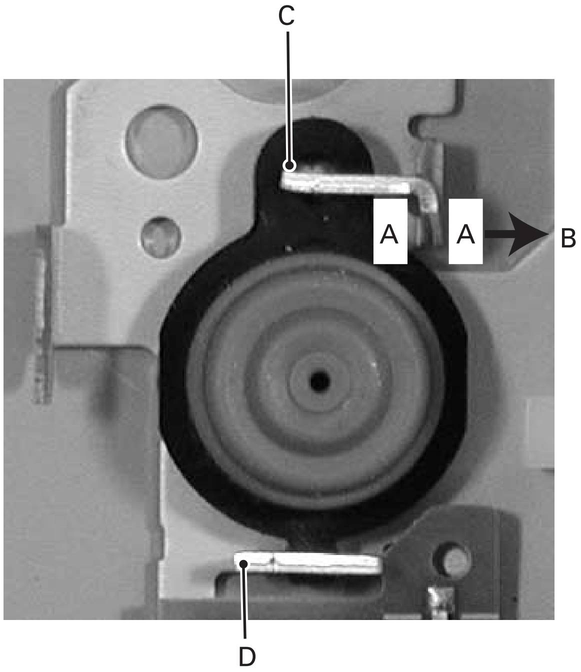


Fig. 15